ENGINEERING: SPOTLIGHT ON DOT TRACK RESEARCH

September 28, 1970

RAILWAY AGE

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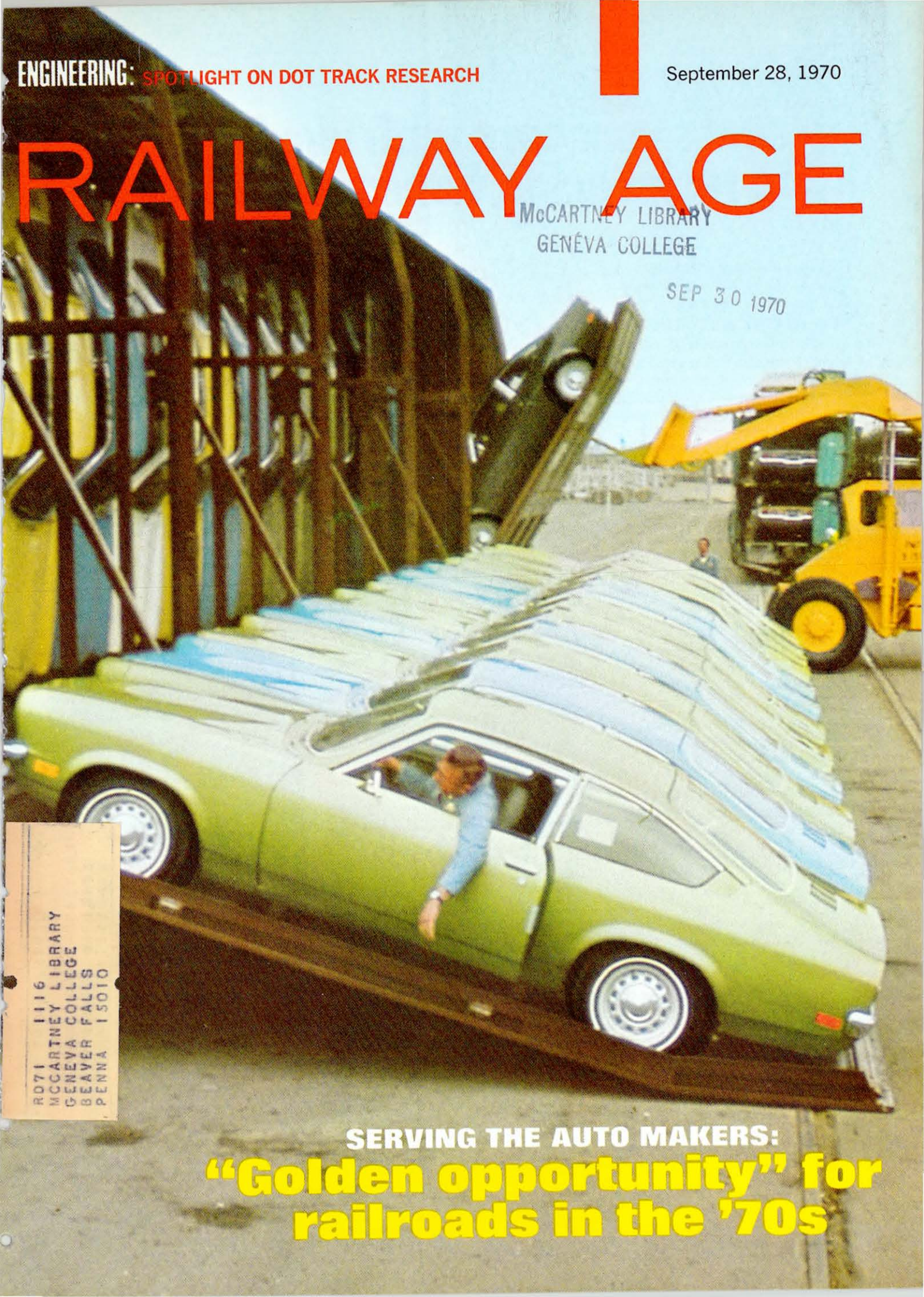

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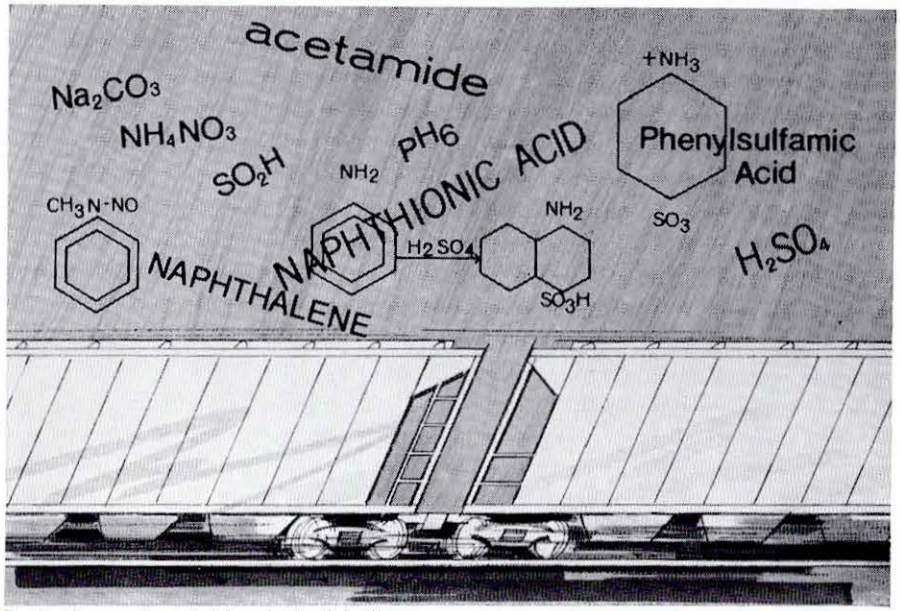

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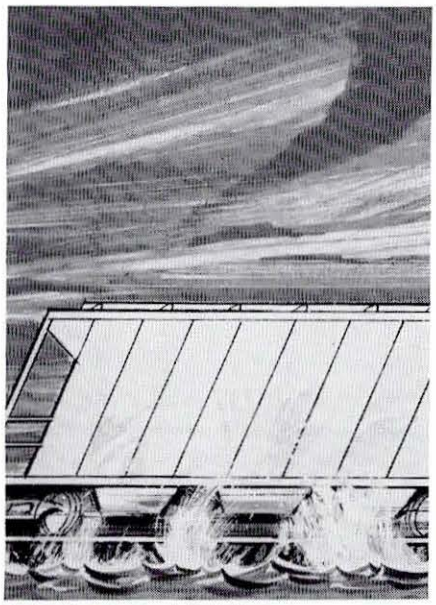
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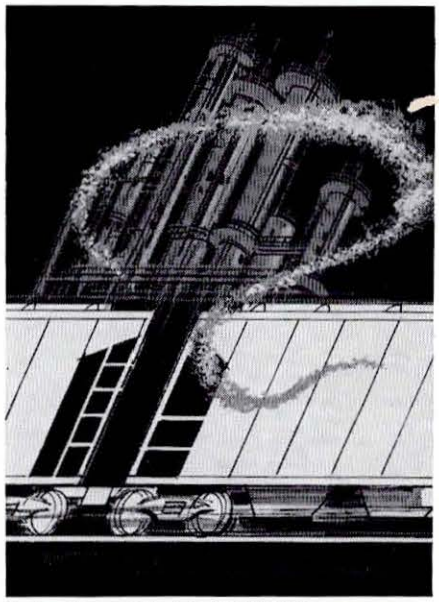
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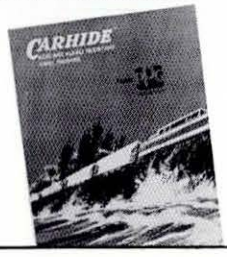

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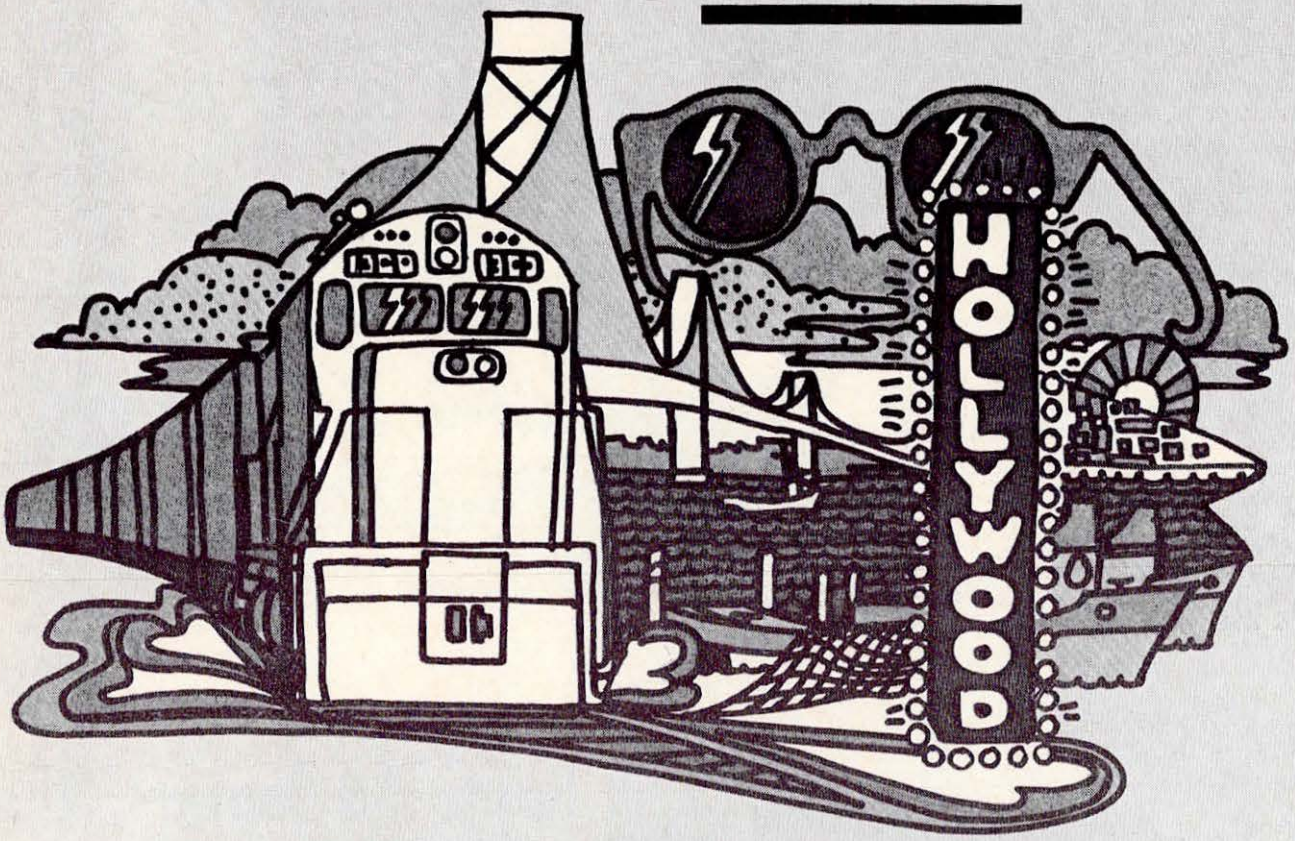

in Missouri Pacific is all about.

Look at a map of the Missouri Pacific service area and you might think we're strictly a "vertical" carrier. And it's true that between Chicago/St. Louis and Memphis, Little Rock, Dallas/Ft. Worth, New Orleans and the Texas Gulf Coast . . . you won't find faster, more efficient freight schedules than ours.

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So next time you have cargo for the west coast, call us. The "Pacific" (Missouri, that is) is as close as our nearest freight representative. You'll find he can save you oceans of trouble in lining up your shipment.

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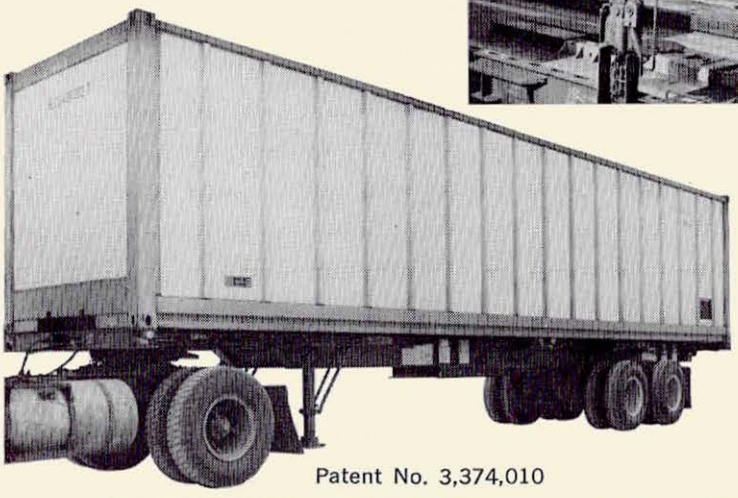
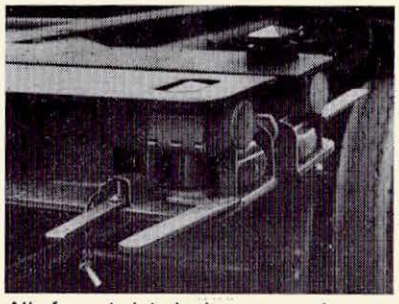
all types of 20-foot

containers



hauls 40-footers, too.

Patent No. 3,374,010



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Inside

LUTHER MILLER

A BETTER IDEA . . . .

Eleven years ago, nine out of 10 motor vehicles were traveling from assembly plant to dealer by highway carrier. Railroads were getting only 8% of this lucrative traffic; water carriers were getting the remaining 2%. Then Ford had a better idea. And General Motors. And Chrysler. And American Motors.

The auto-makers rediscovered the steel wheel on the steel rail. Railroad marketing men offered the bi-level (and then the tri-level) auto-hauling flatcar, and Detroit responded quickly. By 1961, railroads were hauling 20.5% of all new motor vehicles shipped from U.S. factories. Last year they had more than half of the new-auto freight package.

How this has all come about is the subject of Bob Bartley's story beginning on p. 37 of this issue.

At press-time, the importance of this traffic to railroads was being forcefully brought home. With General Motors on strike, the railroads were losing an estimated $7 million a week in revenues. (This money is not irrevocably lost, however. The pent-up demand, says General Motors, will eventually compensate for any losses accruing from the strike.)

. . . . AND FORD PROVES IT

Ford was most definitely not on strike last week. On Sept. 22, a train dubbed the "Pinto Express" left Detroit—the first of the regularly scheduled Ford Auto Service Train (FAST) shipments for the 1971 model year.

FAST is a Ford-pioneered system that entails assembling short, fast trains exclusively carrying Ford parts and cars. Rail freight traffic from plants in the Detroit area is consolidated at the Detroit, Toledo & Ironton's Flat Rock yard.

Last week's FAST train movement demonstrated, among other things, how America's railroads, at their best, operate as one large, well-oiled transportation machine. The "Pinto Express" was scheduled to depart Flat Rock Yard at 2 p.m. on Tuesday. It was to be delivered to Norfolk & Western at Delta, Ohio, two hours later. Twenty-four hours later (Sept. 23) N&W was to deliver the FAST shipment to the Rock Island at Kansas City. Twenty hours after that (Sept. 24) the Denver & Rio Grande Western was to take over in Denver. Fifteen hours later (Sept. 25), the Western Pacific would take over at Salt Lake City. Arrival at San Jose, Calif., was scheduled for Sept. 26.

What does all of this mean for Ford—and the railroads? Says Richard Haupt, director of Ford's Transportation and Traffic Office: "In addition to substantially cutting down on delivery time, the FAST system uses freight cars more efficiently, minimizes damage and pilferage, and achieves greater economies for both Ford and the carriers."

Which is what transportation is really all about.

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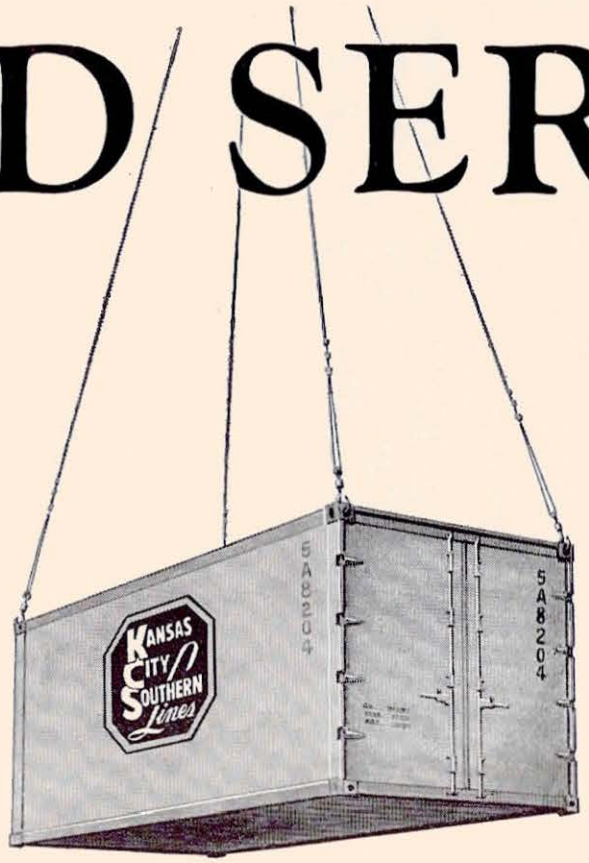

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Short and Significant

PASSENGERS

METROLINER DEMONSTRATION APPROVED

The Philadelphia Federal Court handling Penn Central's reorganization approved on Sept. 11 the road's agreement with DOT for formal commencement of a Federally-aided Metroliner test project. The court's approval means Penn Central, in return for operating the high-speed New York-to-Washington trains, into which it has already invested $50 million, will receive soon $4.6 million from DOT and additional monthly payments totaling $2.5 million. The agreement pares total DOT participation in the project from $11.2 to $10.7 million (of which $3.6 million has been paid) and provides for seven Metroliner round-trips daily.

BICENTENNIAL RAIL SYSTEM STILL CONSIDERED

Proposals for a high-speed rapid rail system from Boston to Richmond, Va., constructed to commemorate the 200th anniversary of the Declaration of Independence, are alive—barely. In accepting the report of the American Revolution Bicentennial Commission on plans for 1976, which calls for an international exposition in Philadelphia that year, President Nixon directed DOT Secretary Volpe and Budget Director George Schultz to submit cost data on a Northeast rail project. (RA, June 29, p. 27)

JFK RAIL LINK COMES A STEP CLOSER

New York is still looking for money to build a railroad link to John F. Kennedy International Airport—but officials are so confident funds will be found that they have retained the firms of Parsons, Brinckeroff, Quade & Douglas, and Gibbs & Hill (in a joint venture) to draw final design plans for an important part of the line. This is the proposed extension of the Long Island Railroad from the mainline in Rego Park, Queens, to JFK. By 1974, New York hopes to be providing 20-minute rail service between Pennsylvania Station in Manhattan and the airport. There will be airline passenger check-in facilities at the railroad station. Meanwhile, the Port of New York Authority continues to study plans for providing rail access to Newark Airport in New Jersey via the Penn Central mainline.

MORE FEDERAL AID DUE FOR NEW HAVEN CARS

New York's Metropolitan Transportation Authority and the Connecticut Transportation Authority will go ahead with plans to acquire 144 new commuter cars for service on Penn Central's New Haven division, despite the unexpectedly high cost of $422,000 per car quoted by the apparent low bidder, General Electric. The U.S. Department of Transportation has indicated it can offer more dollars toward purchase of the cars than the $18 million originally planned. Evaluation of the bids is continuing, and a contract is expected to be signed in about 30 days.

THE INDUSTRY

YEAR-ROUND SEASON FOR SEAWAY?

St. Lawrence Seaway shippers want the Federal government to run a demonstration project that would extend the Seaway's navigation season through the winter months, a time when many Seaway users turn to rails for service. The Seaway is currently shutdown by ice from mid-December to early April. The Senate Public Works Committee is hearing supporters of the idea.

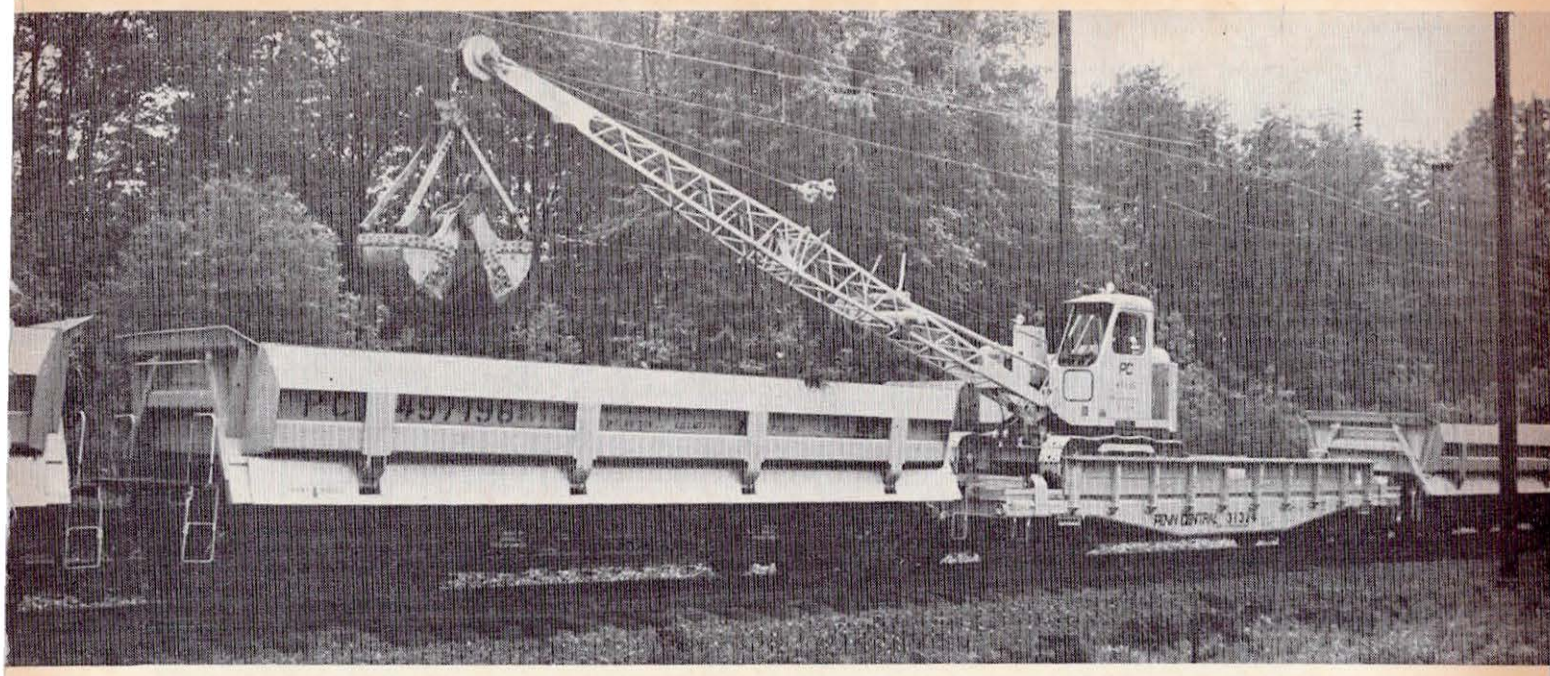
RI NAMES SUCCESSORS TO LANGDON

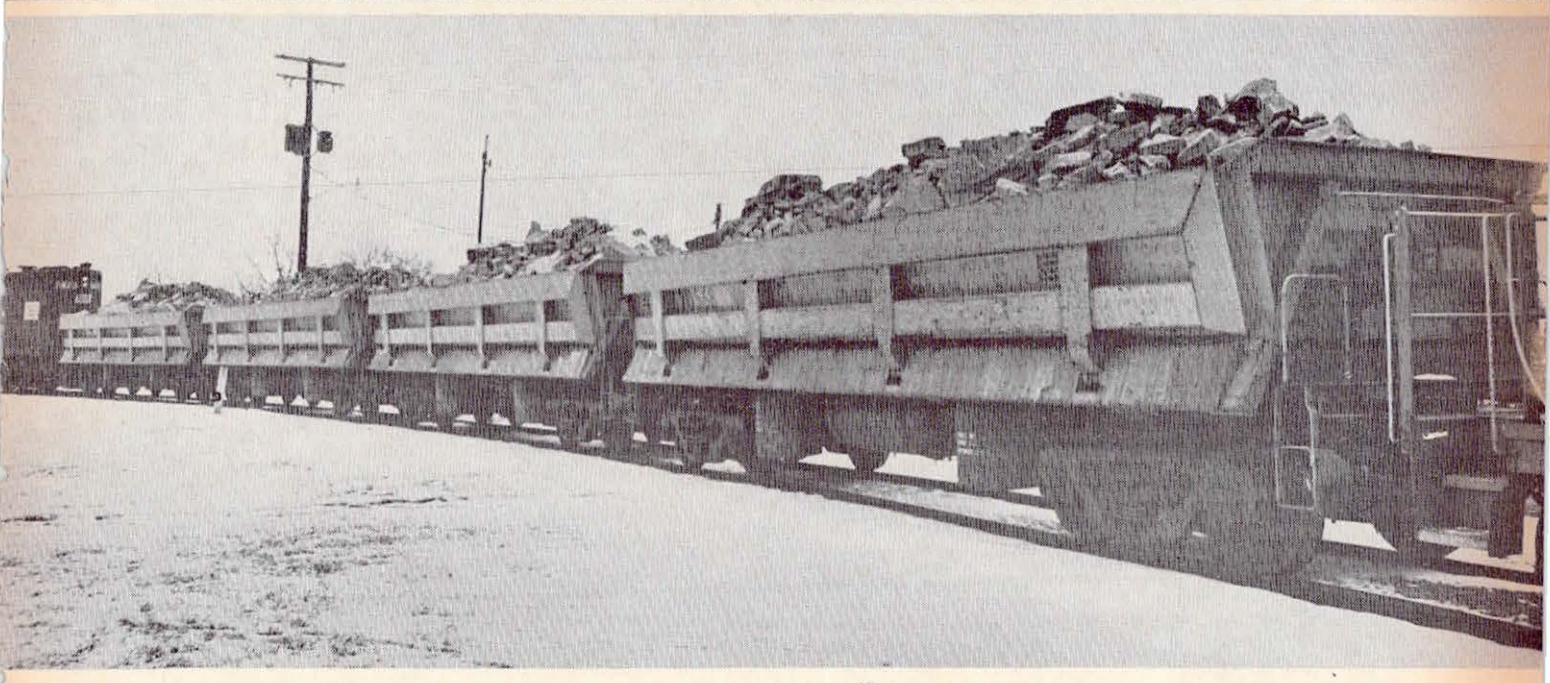
Rock Island directors have realigned top management functions, in the wake of the departure of Chairman and President Jervis Langdon, Jr., to serve as a trustee of Penn Central. Under the new setup, Peter Kiewit, head of an Omaha contracting company, becomes acting board chairman; Theodore E. Desch, vice president and general counsel, becomes vice chairman and chief executive officer; and William J. Dixon, senior vice president, becomes president.

BILLIONS ASKED FOR ENGINEERING RESEARCH

The National Science Foundation has submitted to the Department of Transportation a report calling for investment of $11.4 billion in a 10-year research program covering civil engineering aspects of highway, railway, airway, waterway and pipeline technology. The report was prepared by the American Society of Civil Engineers and the Civil Engineering Department of Colorado State University. Copies are available from the Clearinghouse for Federal Scientific and Technical Information, Springfield, Va.

FOR MAINTENANCE OF WAY





PENN CENTRAL PICKS DIFCO

Ditching and heavy rip-rap hauling call for rugged equipment. Penn Central is one of the many railroads that use DIFCO Air Dump Cars in their maintenance of way operations.

All-welded DIFCO cars are built to take the shocks of large boulders during power shovel work. And lower car height makes possible larger loads and deeper ditches.

For rip-rapping operations, DIFCO's patented down-folding door design permits the use of all size material. Maximum load cast to either side is another DIFCO feature that saves time and labor.

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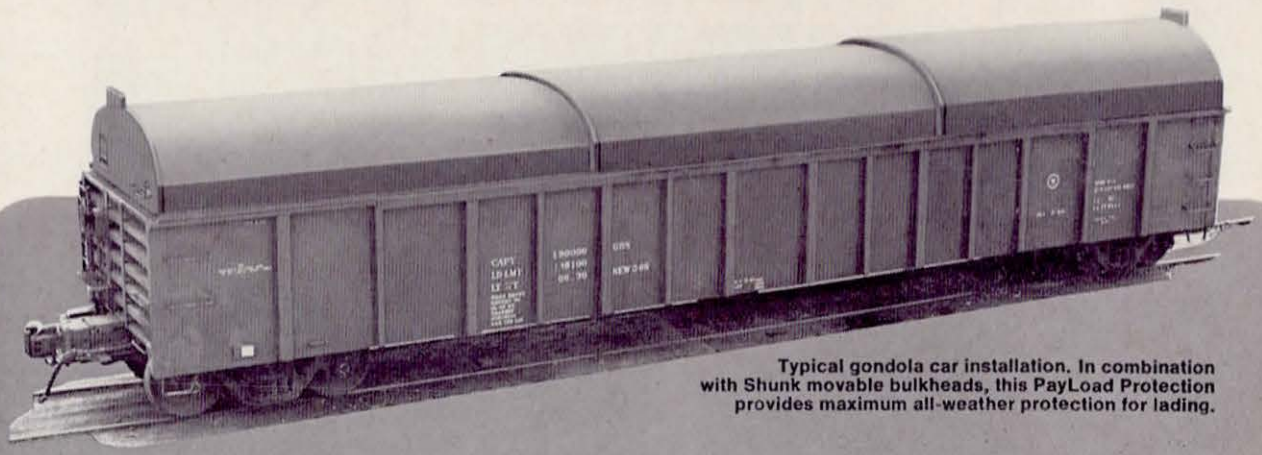

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- Locking devices secure sections in closed position
- Convenient inspection doors
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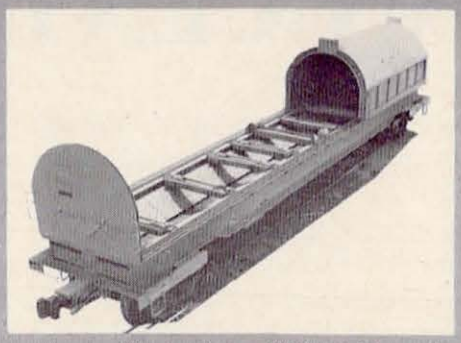

Steel coil car with Shunk telescopic cover; also available for flat cars.

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Gone but not forgotten.

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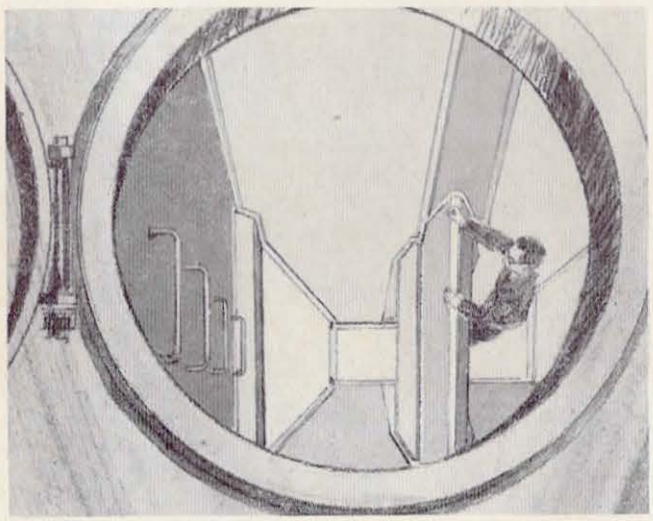

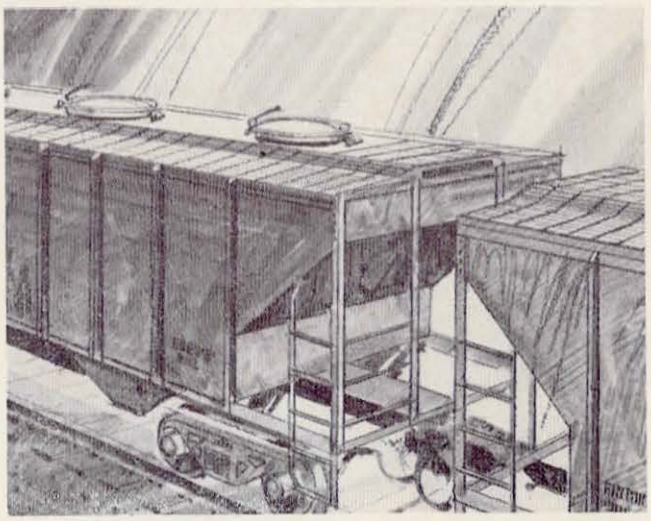

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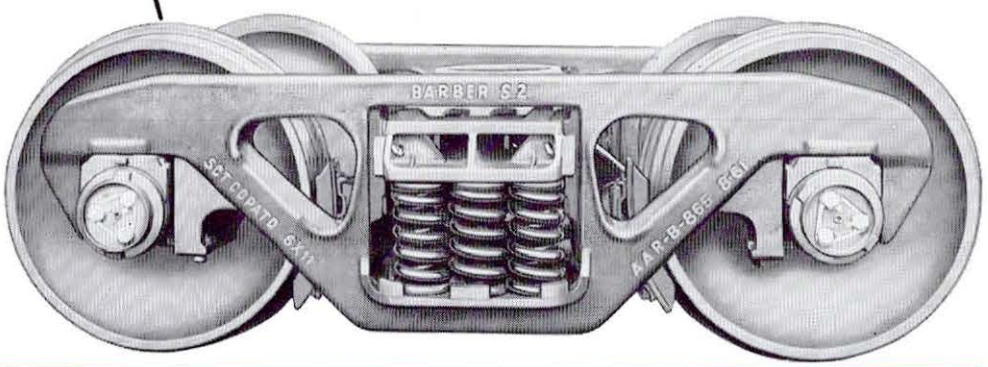
When was the

"TOTAL DESIGN CONCEPT"

of the Barber Stabilized Truck developed?



...EVERY DAY!

The first Barber Stabilized Truck was designed in 1932. Since that time it has undergone continual improvement. Its superiority has been proven through years of use . . . to give greater lading protection, longer service life, lower maintenance. And less first cost too! An excellent design in 1932, even better today . . . and tomorrow.

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If you can't sell your obsolete tank

We really don't mean to give you a bum steer.

We just think you should leave buying and selling tank cars to professionals. People like us.

And spend your time and money doing what you do best. Making and selling your product.

Which is what you'll be able to do when you lease your tank cars from GATX.

That way, you won't have to beat the bushes trying to find a buyer for an out-dated tank car when you want to sell it.

We'll protect you from obsolescence, changing your cars as you develop new products.

car, you can always diversify.

You won't have to worry about keeping your cars running right, either. We'll take care of any service and maintenance problems in short order.

Mileage and tax records will fall by the wayside, too. We'll keep tabs on these.

But most important, you won't tie up all your capital in capital investments.

So that if you do have other fish to fry, you'll have the bread to do it with.

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GATX Before you get your fingers burned.

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The case of the naked coal cars...

and how U.S.Steel helps railroads get more for their money.

How can a smart railroad build a brand-new fleet of steel hopper cars for coal—and never protect them with paint? Easy. They used the steel that forms a tight coating of oxide, russet in color, over unpainted surfaces exposed to the weather. Should the coating be broken or scratched (by abrasion of coal against the hoppers, for instance), it quickly re-forms.

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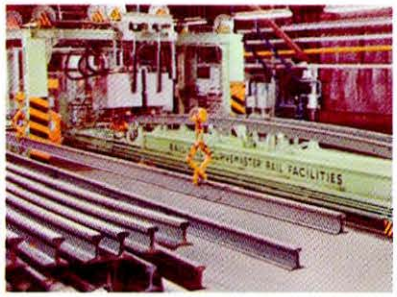

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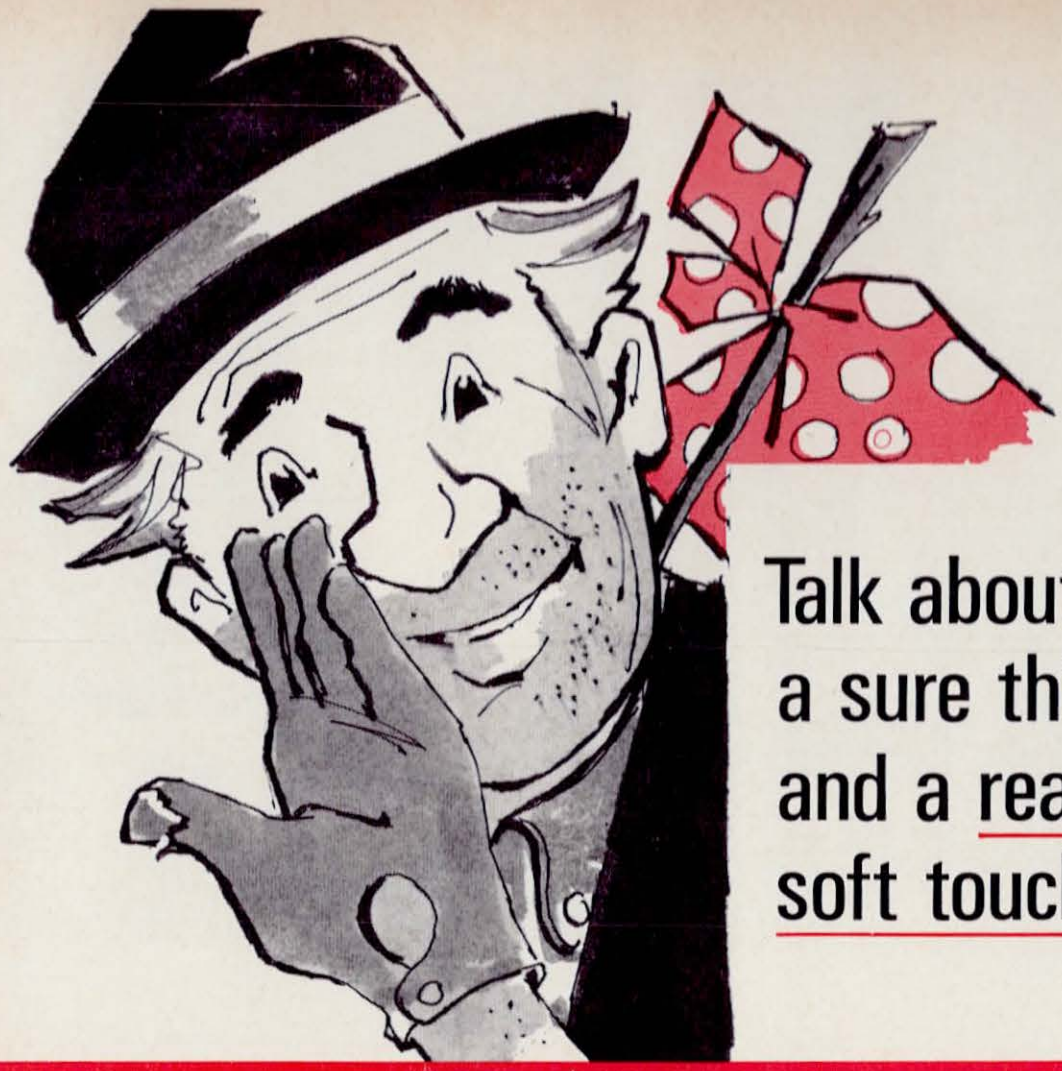

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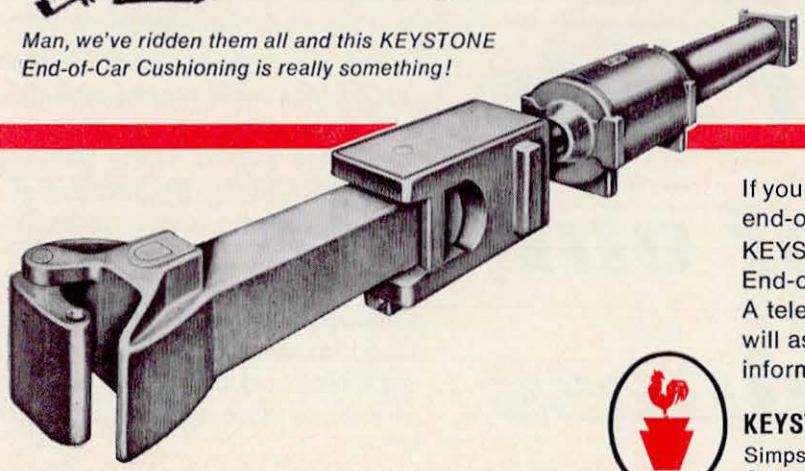

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RAILWAY AGE NEWS

Rates: Some accord, but no unanimity

The rate picture this month was a complicated one, with a welter of ICC orders and petitions and disunity between Southern rails on one hand and Eastern and Western rails on the other as to the size of rate increases they seek, or will seek.

The important developments to remember are these: ICC approved the request of Southern rails temporarily to increase freight rates by 6% effective Nov. 18, and Eastern and Western rails filed for a 15% rate increase to become effective the same date. Southern rails will file their permanent rate-hike request in early December, to become effective March 1, when the 6% temporary increase will expire. They say they will seek a permanent 15% increase only on selected commodities.

Here is the background:

On Sept. 4, the ICC denied Eastern and Western roads' petition for increases up to 15%.

The Commission simultaneously announced an investigation of the "adequacy of freight rates and charges" of all U.S. rails, combining its investigation of an earlier request by all rails last spring for a 6% rate hike (Ex Prate 265) with the subsequent 15% request. Likewise, the Southern rails request for a 6% increase, approved on Sept. 15, will be investigated under this order. The hearing on all opens this week, after having been moved up from Sept. 21, to accommodate the Southern 6% request.

Significantly, the ICC also announced on Sept. 4 that it would require all Class I rails to supply the Commission with detailed information about relationships with affiliated companies.

Under this order, rails must identify their affiliates and the money paid to or received from them in 1969 in all transactions involving more than $30,000. Deadline for this information is Nov. 2.

The affiliate information order apparently is ICC's response to charges it was negligent in the Penn Central bankruptcy by not more closely monitoring the subsidiaries of the parent Penn Central holding company.

Southern carriers had declined to join in the 15% increases of Sept. 4, and filed their own 6% request on Sept. 10. They felt, they said, such an increment would drive some traffic to truck or barge carriers. However, in making their 6% increase request, they asked for some 15% increases on rates for certain commodities, including coal, to go into effect March 1. These selective rates were denied by ICC when it approved the 6% hike.

In seeking a 15% rate increase, Eastern and Western roads told the ICC that wage and other costs of the industry as a whole had risen by $2.75 billion since 1966—but that the increases already granted in Ex Parte Nos. 256, 259 and 262, plus those requested in Ex Parte 265 will produce only slightly more than $2 billion.

The carriers originally asked that the 15% increase become effective in two phases, 8% on Sept. 5 and the remaining 7% on Nov. 1. The ICC's subsequent requirement of 60 days' notice led to the refiling.

Milwaukee beefs up its hopper fleet

With delivery of 500 new cars leased from Pullman Transport Leasing Co., the Milwaukee Road now has more than 3,050 covered hoppers in its fleet. Tailored for grain traffic, the cars have a capacity of 100 tons or 4,740 cubic feet. They are equipped with sanitary linings and trough hatches.

Transport Policy statement due in '70

DOT Secretary John A. Volpe this month lifted the curtain—slightly—on a new National Transportation Policy statement, the first since the Doyle Report of 1960 and the first introduced by an administration since the Transportation Act of 1940, whose preamble constitutes the present National Transportation Policy. The DOT Secretary told Congress he plans to have one ready by the end of this year. He also said DOT was working on a "1972 National Transportation Plan," one element of which would be a 1972 Railroad Needs Study. He called the 1972 plan project "the most innovative and ambitious undertaking launched by this Department during its short history." Rumors and vibrations about such master plans have been heard in Washington for months, but Secretary Volpe's remarks were the first definite articulation of their status.

NEWS

Penn Central builds booze cars

At Hollidaysburg, Pa., Penn Central is building a new fleet of cars designed to give liquor shipments a smooth ride. The cars are modeled after a test car designed and built by Evans Products. Dual air packs will be used in the 50-ft. cars, which will have extra high (11 ft., 6 in.) doors for easy loading.

Justice opposes IC/GM&O union

The Justice Department on Sept. 17 asked the ICC to reject the proposed merger of the Illinois Central and the Gulf, Mobile & Ohio. An ICC examiner recommended the merger earlier this summer.

"The financial conditions and prospects of these carriers are clearly sufficient to sustain their independent operation," Justice said. The Justice request said the consolidation of the two rails would cause competition in the Mississippi Valley and place shippers and communities under service by only one carrier.

In other merger news, the ICC decided earlier this month to delay further action on the merger of Norfolk & Western and Chesapeake & Ohio until Feb. 15. The six month delay was at the request of Penn Central.

Car supply a key to dwindling coal stocks

An increased demand for coal by electric power plants, associated with a shortage of rail hopper cars to move coal, has resulted in (1) the coal industry calling for government aid to rails (2) a Congressional investigation of U. S. fuel shortages with rail implications.

A combination of factors caused the shortage of hopper cars in August, say rail industry sources, who add that the shortage is now easing. They cite mine vacations in July, a flight of hopper cars to coastal ports where an unseasonable lack of ocean vessels carrying export coal caused hopper cars to remain on piers longer than usual, and a large number of cars stalled at mine areas because of wildcat strikes as reasons for the shortage.

The hopper car shortage is serious because utility plants say a falling supply of coal and rocketing fuel costs may result in electrical "brownouts" or even "blackouts." This threat has alarmed the Administration and Congress. As remedy, some power utilities —to name one, Cleveland Electricity Illuminating (RA, Sept. 14, p12.)— are planning to purchase or lease coal cars.

Coal reserves at utilities have dropped despite the fact that 1970 production of bituminous coal, about 55% of which is used by utilities, is expected to total 586 million tons, the highest of any year since 1947. The utilities blame a 20% increase in export coal for their shortages.

The two major rail carriers of coal, Norfolk & Western and the C&O/B&O, both announced restrictions effective Sept. 1 on the number of cars they make available for movements of coal to ports for export. Both roads said they would issue permits for coal cars only when the arrival of coal trains at Newport News and Norfolk, Va., coincided with the arrival of ocean ships. This, they said, would free more hopper cars for domestic utilities.

In Washington, there were rumors the Administration had privately warned coal operators and rails it would embargo export coal if utility shortages continued. President Nixon also named a special task force to investigate the fuel shortage, led by Paul W. McCracken, chairman of the President's Council of Economic Advisers.

Stephen F. Dunn, president of the National Coal Association told members of this force, "No matter how it is done, it is essential that the car supply be increased. If government money or loan guarantees to buy new coal cars were made available, we believe additional cars would be forthcoming in a period of about six months—we are told this is the necessary lead time.

This would ease the shortage in the short-term, he said. For the long-term, Dunn suggested additional tax incentives to the railroads, direct government funding, or purchase of coal cars by large consumers.

To dramatize Congressional concern, no less than 54 senators introduced a resolution calling for a full investigation of the energy fuel shortage. The resolution also called for creation of a National Commission on Fuel and Energy to determine long-term solutions to the nation's energy problems.

Grayson blames terminal tieups on outmoded facilities

"No more pressing problem exists in the railroad industry today than that posed by outmoded fixed facilities," R. C. Grayson, Frisco president, told a group consisting largely of mechanical officers during the recent Coordinated meetings in Chicago. While his audience was concerned primarily with the railroad's mobile equipment, he stressed that everyone in the industry has a role in producing a climate in which all railroading can grow.

"Much of the terminal delay in our industry can be traced to facilities designed and built to cope with the conditions of yesterday," continued Grayson. "And those roads most in need of new facilities are those which would be hardest pressed to generate sufficient net income to undertake such major projects. Federal assistance in obtaining necessary capital is urgently needed."

He urged Federal underwriting of loans for railroad capital programs, as recommended by the ASTRO study. "There are 21 major railroads which operated at a deficit last year," explained Grayson. "While these carriers have varied operating characteristics, it may be said they all suffer from the common malady of being overtaxed, over-regulated and undernourished."

Grayson also spelled out some of the technical challenges which confront mechanical departments:

—Greater wear and tear on track structure resulting from large cars and locomotives;

—Car trucks which are not adequately meeting high-speed demands under many freight cars (see also page 46);

—Higher-capacity cushioning which has not proved the cure-all for impact damage;

—Greater slack action resulting from trains which are harder to control because of the widely varying cushioning characteristics on different cars.

C. S. Patton, general manager-motive power and equipment, Norfolk & Western, seconded the Grayson indictment, calling the terminal "the biggest roadblock to fast, dependable, on-time railroad transportation." While a necessary function, it is important that terminal operations be rationalized, something which N&W is achieving in part with a growing number of run-through trains.

N&W, explained Patton, has been pre-blocking a substantial portion of coal traffic to avoid intermediate terminals and has numerous through interline operations involving roads such as Union Pacific, Western Maryland, Lehigh Valley and Erie Lackawanna. He added that the mechanical department has a substantial role in the success of such run-through freight trains by insuring that both locomotives and cars are ready for trouble-free operation and by monitoring en route equipment functions with hotbox detectors and with loose-wheel and dragging-equipment indicators that N&W has at 30-mile intervals along its main lines.

The functions of the Air Brake Association, Car Department Officers Association, Locomotive Maintenance Officers Association and Railway Fuel & Operating Officers Association were commended by R. E. Taylor, assistant vice president—mechanical, Burlington Northern. "Our people have been active in these associations and we intend this support will continue," he said. "We believe these associations are of much value to the industry, both in development of the individual participants . . . and as a forum for discussing mutual problems."

Among problems confronting the industry is increasing pressure on railroads for control of the environment. Both CDOA and LMOA had discussions of retention toilets on cars and locomotives. Related ecological problems include spark retention on locomotives, control of the discharge of oil and cleaning materials from locomotive servicing and repair facilities, and the normal oil discharges from operating diesel locomotives. ABA, CDOA and LMOA all had sessions which considered the increasing stresses being imposed on car and locomotive wheels by today's faster and heavier trains. An LMOA group has been developing guidelines for handling of wrecked locomotives. It now has some recommendations concerning scrapping, trade-in or repair.

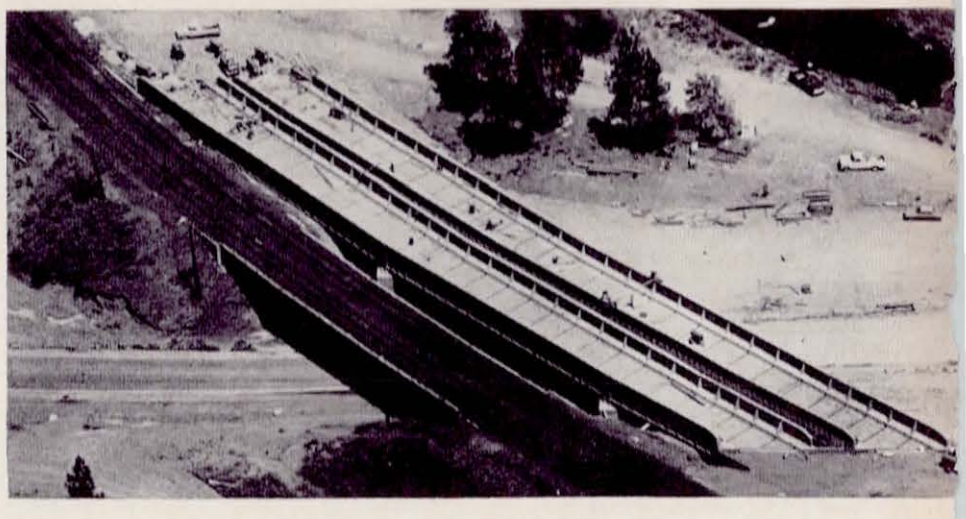
Passenger notes: Some on, some off

Southern Pacific is back at the California Public Utilities Commission for permission to drop its Los Angeles-Oakland "San Joaquin Daylight" trains and a connecting pair of "Sacramento Daylight" trains; Chicago & North Western wants to start up a new passenger service—if it gets permission to discontinue a pair of trains now running. SP has been turned down once on its proposal—but since the turndown last year, losses have increased. General Manager-Passenger Traffic Robert M. Jochner says the trains are something like the human appendix: "Evolution has left it without any real function, but it can still make its presence felt in a very painful way." C&NW, meanwhile, is proposing to begin a two-round-trip-a-weekday "campus commuter" service between Chicago and DeKalb, Ill., location of Northern Illinois University, if the ICC permits discontinuance of a daily roundtrip service between Chicago and Clinton, Iowa. H. A. Lenske, director commuter and passenger service, says the new trains "would be strictly an experiment to test rider demand." Fares would be reduced as much as 67% from present Chicago-DeKalb fares; startup hinges not only on ICC action on the Chicago-Clinton trains but also on union agreements.

NEWS

Steel helps BN bridge a problem

A pair of parallel steel bridges 345 feet long have been installed at Spokane, Wash., to carry the Burlington Northern's double-track line over a highway being widened by the Washington State Highway Department. Bethlehem Steel fabricated the 650 tons of steel involved in the eight 10-foot-deep girders. Approximately 350 tons of Bethlehem H-piling were used in piers and abutments. Ballast plates are Mayari R corrosion-resistant steel girders were field-assembled with high-strength bolts.



Union strategy: Try the whipsaw

It was confrontation time again in rail management/labor relations—and labor's tactic, in a national wage dispute, was the whipsaw walkout aimed at just three carriers. Predictably, the railroads went to the courts and won a temporary restraining order which—eventually—got the struck railroads (Southern Pacific, Chesapeake & Ohio, Baltimore & Ohio) operating again.

In its original form, the order was scheduled to expire Sept. 23, with a hearing set for the preceding day. Coincidentally, Sept. 23 was also the date on which a new flare-up could take place in the fireman-manning dispute. Negotiations in this area had seemed to show progress—until the United Transportation Union broke off, saying it was "totally and completely disgusted" with the actions of the railroads.

So far as the Administration was concerned, the approach was a combination of hands-on/hands-off. After the call for a selective strike in the wage case, there reluctantly came the appointment of an emergency board. This group has until mid-October to come up with a formula settlement.

But in the firemen-manning dispute the Administration faced a different kind of problem—with the emergency-board option already exercised and nothing left under the Railway Labor Act to prevent the parties from resorting to self-help.

PC's Moore takes his story to the people

It may be a cliche, but it fits: William H. Moore didn't move into his present job—perhaps the toughest in the industry—to preside over the dissolution of the Penn Central empire. In a series of meetings across the system—with employees, shippers, the press—he's coming across strong, in a soft-spoken way. There's no bombast, no free-swinging rhetoric when people ask him what went wrong. There is an air of quiet confidence that, given an even break and a helping hand or two, Penn Central can be saved. "If I didn't believe that," he told Chicago newsmen recently, "I wouldn't be here."

PC's new president and chief executive emphasizes that the "problem" is not one problem but many. Morale has not been good: "That's one reason we're out between the rails now, talking with people." Service has suffered, in part because of power and equipment problems—and there's no doubt that PC requires "much larger capital expenditures" next year than in the past. Money will continue to be a core problem, whether it's trustee certificates or loan guarantees that are being talked about—but at the same time, PC "can do a lot to improve service" without new investment in huge amounts. Still, he would like to get up to 6000 new hoppers in '71.

Moore doesn't minimize the problems. But on all fronts he can find some reason for shunning pessimism. He regards the climate-of-understanding in Washington as better than it's been for a long time. He detects a want-to-help attitude on the part of PC's employees. And he's finding customers receptive to the story the road's new management is telling.

"What's your timetable for improving Penn Central" one reporter asked.

Said Bill Moore, in measured tones: "I hope we're improving right now."

Train accidents show decline

Train accidents declined by 5.9% in the first six months of 1970 over the like 1969 period—the first such drop in nine years—says a preliminary Department of Transportation report released Sept. 17. The 4,110 accidents reported represent a drop of 259 from the 4,369 reported during the same 1969 timespan. Injuries in January to June, 1970, showed a 6.6% drop: from 11,615 in 1969 to 10,854 this year. The figures moved DOT Secretary Volpe to plug the rail safety legislation whose passage is imminent in Congress. "We are hopeful that final passage . . . of the Railroad Safety Act will provide the tools to increase this improvement even more dramatically," said Volpe.

L&N/Monon merger gets ICC go-ahead

The ICC on Sept. 18 approved a major rail merger for the first time in over a year.

Discounting the fears of the Penn Central that it would lose more freight traffic, the Commission approved the merger of the Monon into the Louisville & Nashville. It makes L&N a $1.9 billion company operating over 6,340 miles in 13 states.

The merger gives L&N—owned 33.2% by Seaboard Coast Line—a wholly-owned line into Chicago across the Monon's 541-mile system from Louisville, Ky. through Indiana. L&N already has an access to Chicago over a portion of the Chicago & Eastern Illinois which is controlled by Missouri Pacific.

The merger will be effected by an exchange of stock worth about $27 million. Specifically, L&N will issue a new $2.10 cumulative convertible preferred stock which it will exchange on a share-for-share basis with each of Monon's 772,467 shares of common.

Sulphur-train service expanded

Santa Fe is adding a train and increasing frequency of service on its molten sulphur unit-train operation in Texas. The service began last year with three 66-car trains (RA, Aug. 11, 1969, p. 24; Dec. 1, 1969, p. 28). Now, a fourth train is in the shuttle, and departures from Duval Corporation's Rustler Springs plant are scheduled every other day instead of every fourth day. Each train carries 858,000 gallons of molten sulphur from the plant to shipside at Galveston.

Rebirth for a narrow gauge line?

Sen. Joseph M. Montoya (D-N.M.) urged the ICC to issue a certificate to the states of New Mexico and Colorado for their takeover of a former Denver & Rio Grande Western narrow gauge line between Chama, N. M., and Antonito, Colo.

All service on the 65-mile, 3-foot gauge line ended in 1964. Built to serve remote mining settlements, the line along with nine locomotives and various types of freight cars has now been acquired by the two states at salvage value.

Officials in the two states plan to upgrade the line into a tourist attraction and to lease it to an individual or firm for operation.

Freight statistics: New approaches

FRA henceforth will compile statistical information on rail freight movements, it was announced early this month in Washington. The action means FRA will resume the statistical processing of the 1% sampling of waybills furnished ICC by rails which ICC abandoned due to budgetary limitations in 1968 after having processed them every year since 1946.

Statisticians were cheered by the agreement between FRA and ICC, since it means more definitive data can be compiled—leading to, for instance, a more reliable index of freight rates. However, lament the statisticians, they are a long way from hard data since FRA will first have to process 1968 and 1969 samples already collected by ICC before it processes the waybill sample for 1970.

ICC's Bureau of Economics, in an effort to develop a useful index of freight rates from what data it possesses, has settled for an index of average revenue per ton-mile as the nearest proximation of a freight rate index.

This month the ICC released its first such index, comparing it with the indices for consumer and wholesale prices prepared by the Labor Department's Bureau of Labor Statistics.

In the period 1950-1969, the index of revenue per ton-mile for Class I railroads remained virtually static when compared to both consumer and wholesale price indices and that of Class I motor carrier revenue per ton-mile.

Specifically (with the period 1957-59 equalling 100), the ICC findings show:

In 1950, the index of consumer prices stood at 87.6, the wholesale price index at 86.8, the index of rail revenue per ton-mile at 91.6, and the index of motor carrier revenue per ton-mile at 80.8.

Nineteen years later, in 1969, the indices stood as follows:

Consumer, 120.5; wholesale, 113; rail revenue per ton-mile, 92.8, and motor carrier revenue per ton-mile, 114.

In other words, the index of average rail revenues per ton-mile last year was more than 7% below the average received during the base period 1957-59, while the three other indices stood from 13% to 20.5% higher.

ICC cautioned that revenue per ton-mile is subject to limitation as a measure of year-to-year changes in freight rates and even more so as a measure of the long-term trend in freight rates. ICC noted that between 1950 and 1968 the ratio of revenue freight ton-miles to tons originated for Class I rails rose 19.7%, and pointed out that rate scales decline usually and significantly with length of haul and vary considerably between low and high rated commodities.

From 1948 to 1966, ICC developed an index of freight rates from its 1% waybill sample of carload terminations, adjusted for commodity, type of rate, mileage, weight and other factors.

Pueblo Center gets project engineer

A former NASA space scientist and graduate of Annapolis has been appointed senior project engineer for the Federal Railroad Administration's new High Speed Ground Transportation Test Center in Pueblo, Colo. He is Glenn A. Reiff, who will represent FRA and direct the test center's development and operations.

NEWS

Lines on Labor

GUS WELTY

"WITH RELUCTANCE AND REGRET . . ."

The White House made it rather clear that President Nixon took no particular pleasure in having to step into another rail management/labor dispute—this time, the wage case involving, principally, the United Transportation Union, Brotherhood of Railway and Airline Clerks and Brotherhood of Maintenance of Way Employes. But, apparently, he didn't have much choice. Negotiation had failed. Mediation had failed. Super-mediation through the Department of Labor had failed. A Federal judge had blocked the unions from maintaining a selective strike in this, a national-bargaining case. The alternative—a nationwide strike—was clearly not to be tolerated.

AN EMERGENCY BOARD CONVENED—BUT THEN WHAT?

The President used the only remaining option under the Railway Labor Act—creation of an emergency board. And, by mid-October, the board will have to come up with some wage formula which it hopes—repeat, hopes—will be used to lay the dispute to rest. Under ordinary circumstances—and excepting a couple of shopcraft wage cases—emergency boards have been able to point the way. But this time around, you have to wonder. This time around the industry's inability-to-pay should be obvious. But, this time around, visions of Teamster-like settlements are dancing in union negotiator's heads. Of such stuff is trouble made.

AMONG THE OPS, A NEW BID FOR PEACE?

With the wage dispute (and the fireman-manning case) occupying primary attention, it would have been easy—but maybe unwise—to overlook a key development in labor's ranks: The Brotherhood of Locomotive Engineers soundly trounced UTU in a representation election on Southern—and then, from its position of strength, asked for an end to inter-union warfare. Actually, UTU didn't lose everything; it won on two small properties and lost narrowly on a third. But in the big test to see who would represent locomotive engineers, the BLE won big. On Southern Railway itself, it was BLE 701, UTU 496. Quite naturally, the BLE did a bit of gloating about this successful defense of representation rights. At the same time, a BLE spokesman called for "all of us" to sit back and "reflect on the current state of affairs. Perhaps we ought to resolve to be guided by the lessons of history, which teach us that no war has ever been worth the cost, [that] no war has ever been the holy crusade its instigators have proclaimed it to be. And, above all, that no one really wins a war." Defeat on Southern (and an earlier one on Long Island) probably won't change UTU's viewpoint that there should be one union representing the ops. But those defeats might make UTU take another look at its game-plan.

Volpe retreats on Trust Fund

DOT Secretary John A. Volpe has told Congress he is opposed to diversion of Highway Trust Fund monies for non-highway uses for at least two years. Further, he said his "mind was open" as to funding transportation in the future.

Secretary Volpe's statement represented a retreat from the position he enunciated in April, when he expressed favor for a plan to scrap the Highway Trust Fund as "the eventual answer" to a "total intermodal approach . . . absolutely essential if we are to develop a balanced national transportation system."

Testifying before the Senate Public Roads Subcommittee on the proposed Federal Aid Highway Act of 1970, Secretary Volpe also came out in flat opposition to a provision which would funnel some highway funds to mass transit facilities, including the purchase of equipment.

"I am unalterably opposed to using highway funds to subsidize the operation of public transit," declared Volpe.

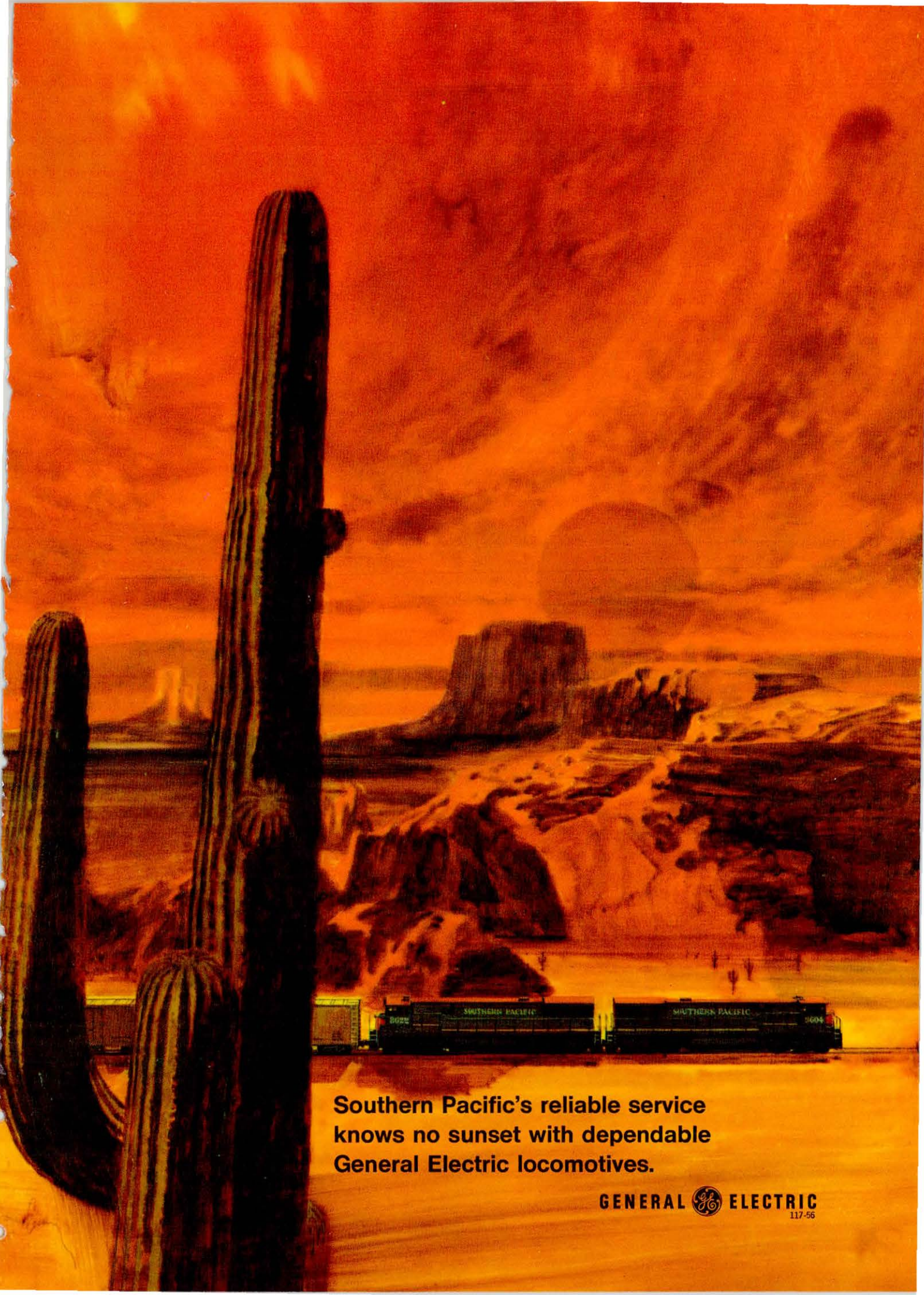
"This is invariably the most costly and probably least effective way of curing the patient."

Senate gets bill on freight pilferage

Senate Commerce Committee hearings began Sept. 15 on a bill introduced by Sen. Alan Bible (D-Nev.) which would create a Presidential commission to investigate freight pilferage, recommend remedies, and establish a uniform loss reporting system.

Sen. Bible estimates losses of freight by pilferage to have totaled $1.28 billion in 1969, of which the rail loss was $100 million, about the same as air and maritime losses. Motor carrier loss totaled a staggering $828 million.

The insurance industry naturally strongly favors the bill, particularly its loss reporting clause which would enable the dimensions of pilferage to be more reliably measured, with a corresponding allocation of premium rates for the traffic involved.



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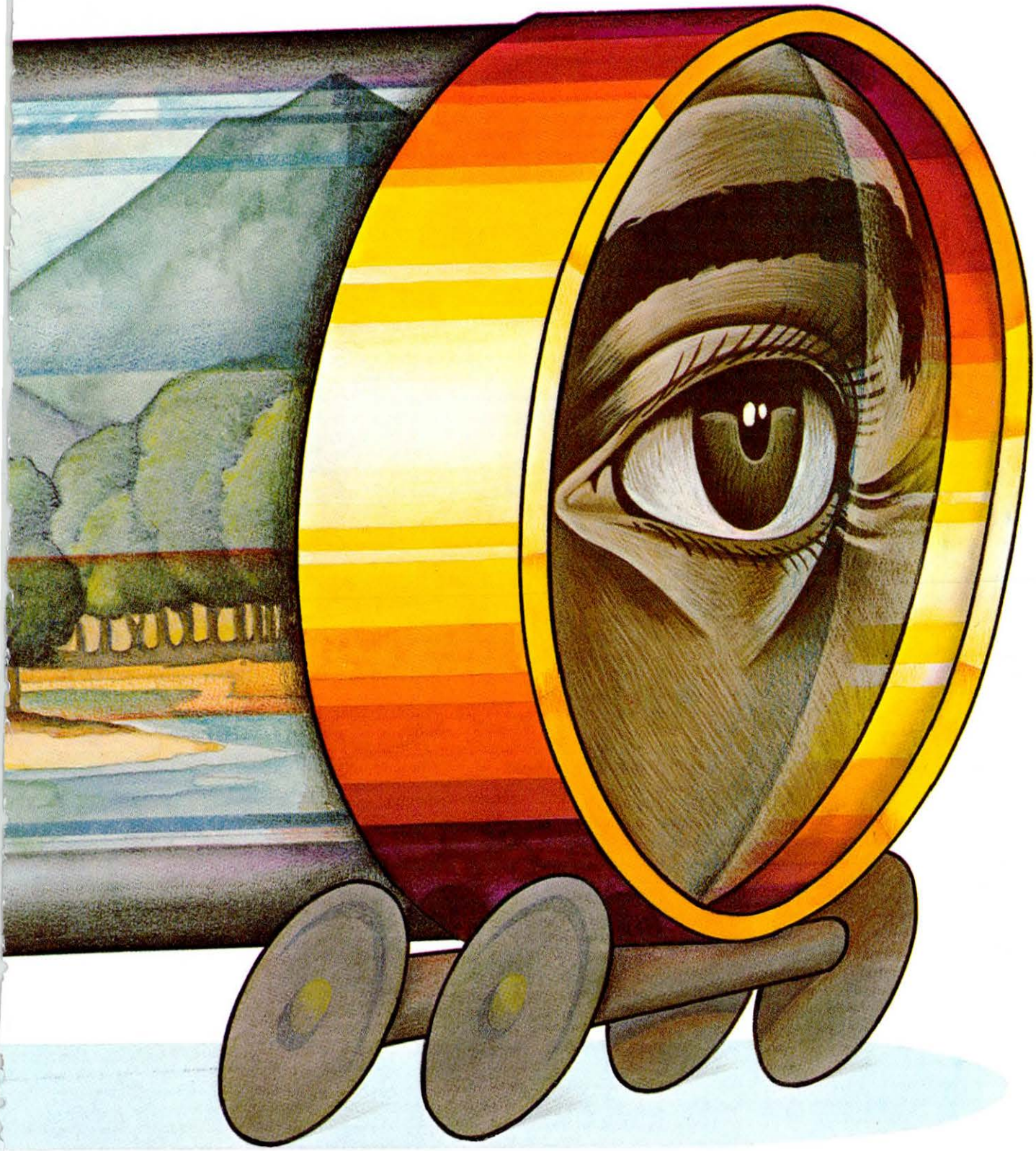

come in a wide variety of sizes with options to meet particular shipping needs best, they are also built with traditional Pullman-Standard quality and production techniques that keep maintenance low and shipper satisfaction high. This combination of design flexibility and unequaled quality is reason to take a new look at our covered hoppers. Make it a long range look.

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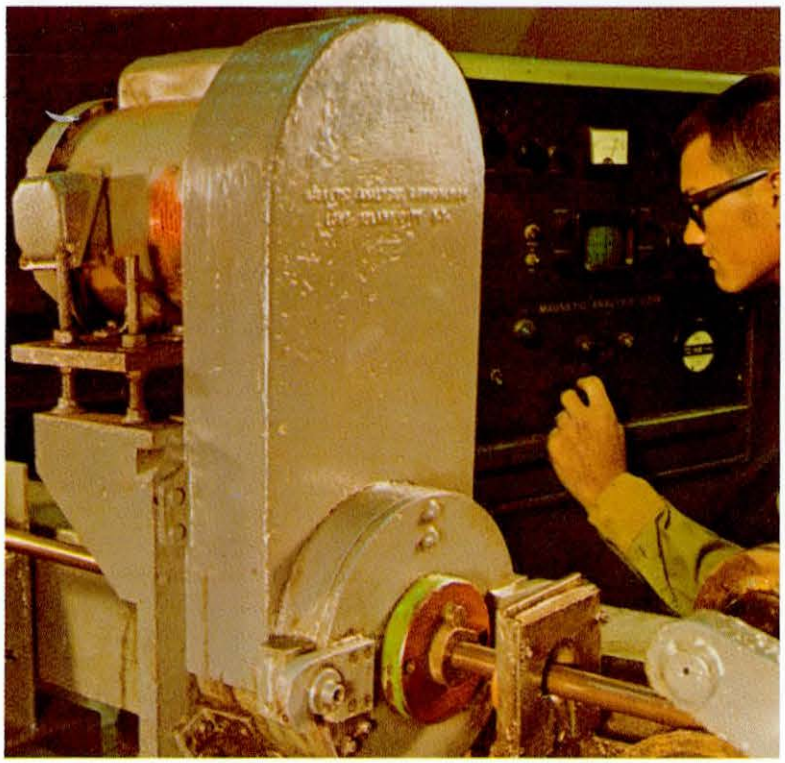

REASON: Beside every turning or grinding machine in our Columbus bearing plant, there's a gauging station. We measure every dimension and angle—more than 30 on each cone assembly. And to make doubly sure of the quality of every bearing, we check every gauge two times every shift. So every "AP" bearing you get will measure up to every job you give it.

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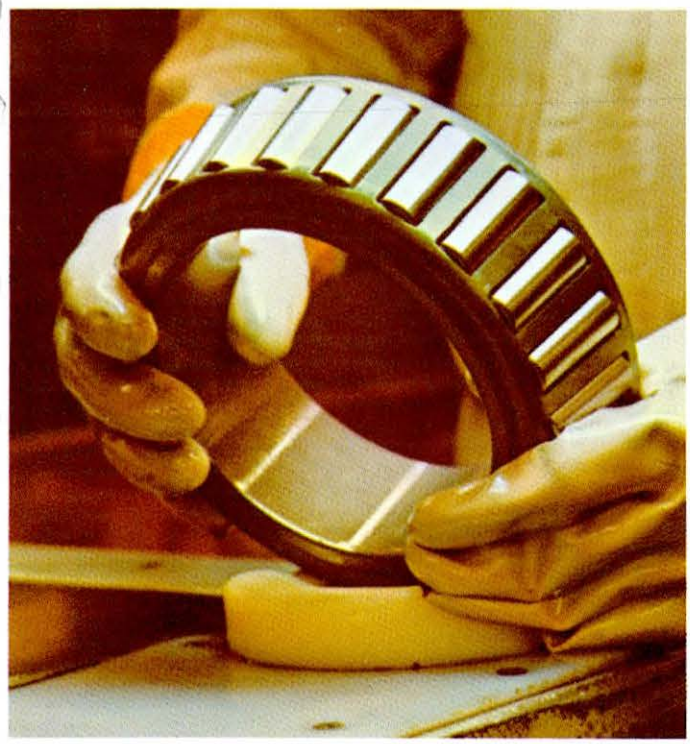
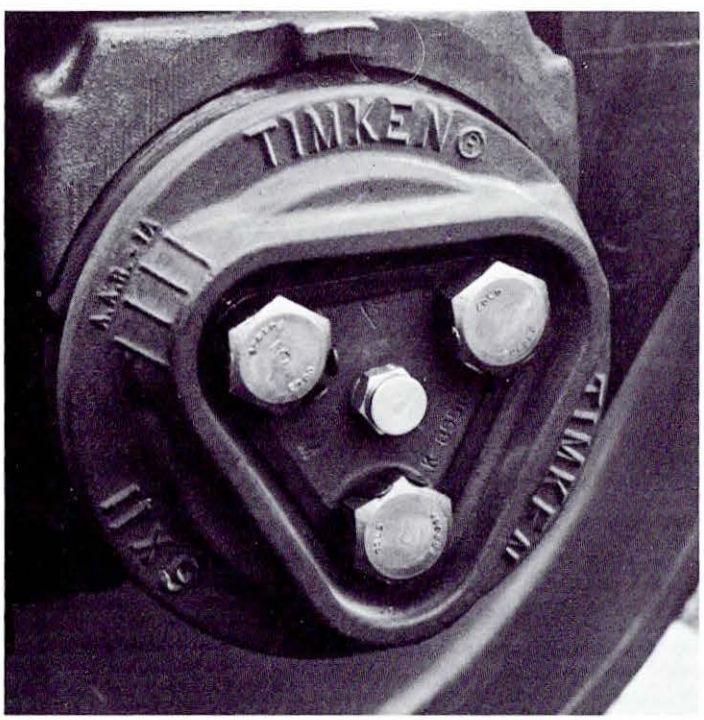
REASON: During final assembly, the men who handle Timken "AP" bearings never touch them with their hands. It's strictly white glove treatment. We wouldn't want any moisture rusting away all our hard work.



RESULT: A bearing with seven years of parts replacement protection. Protection for every part, including seals, until seven years from the day they're made. And the quality of our "AP" bearings has been so good for so long, we even protect those made as long as seven years ago. It follows: make the number one bearing, and your customers will make you number one. The Timken Company, Canton, Ohio. Timken bearings sold in 133 countries. Manufacturing in Australia, Brazil, Canada, England, France, South Africa and the U.S.A.



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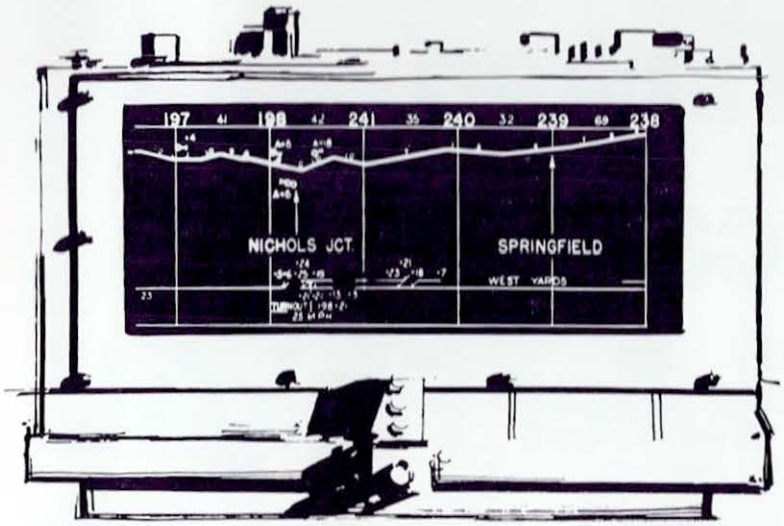

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†*LATE. It's a four letter word at* FRISCO

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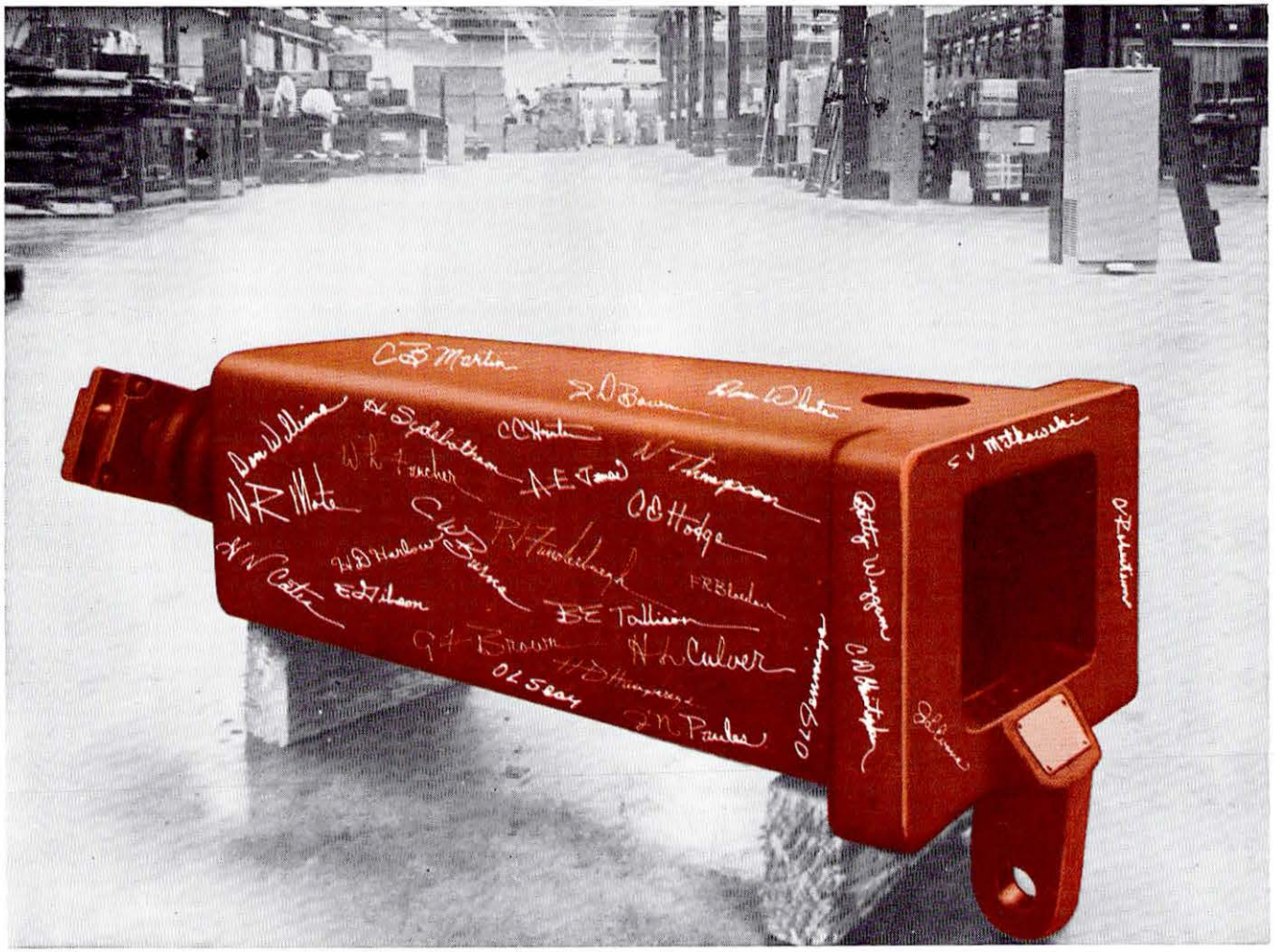

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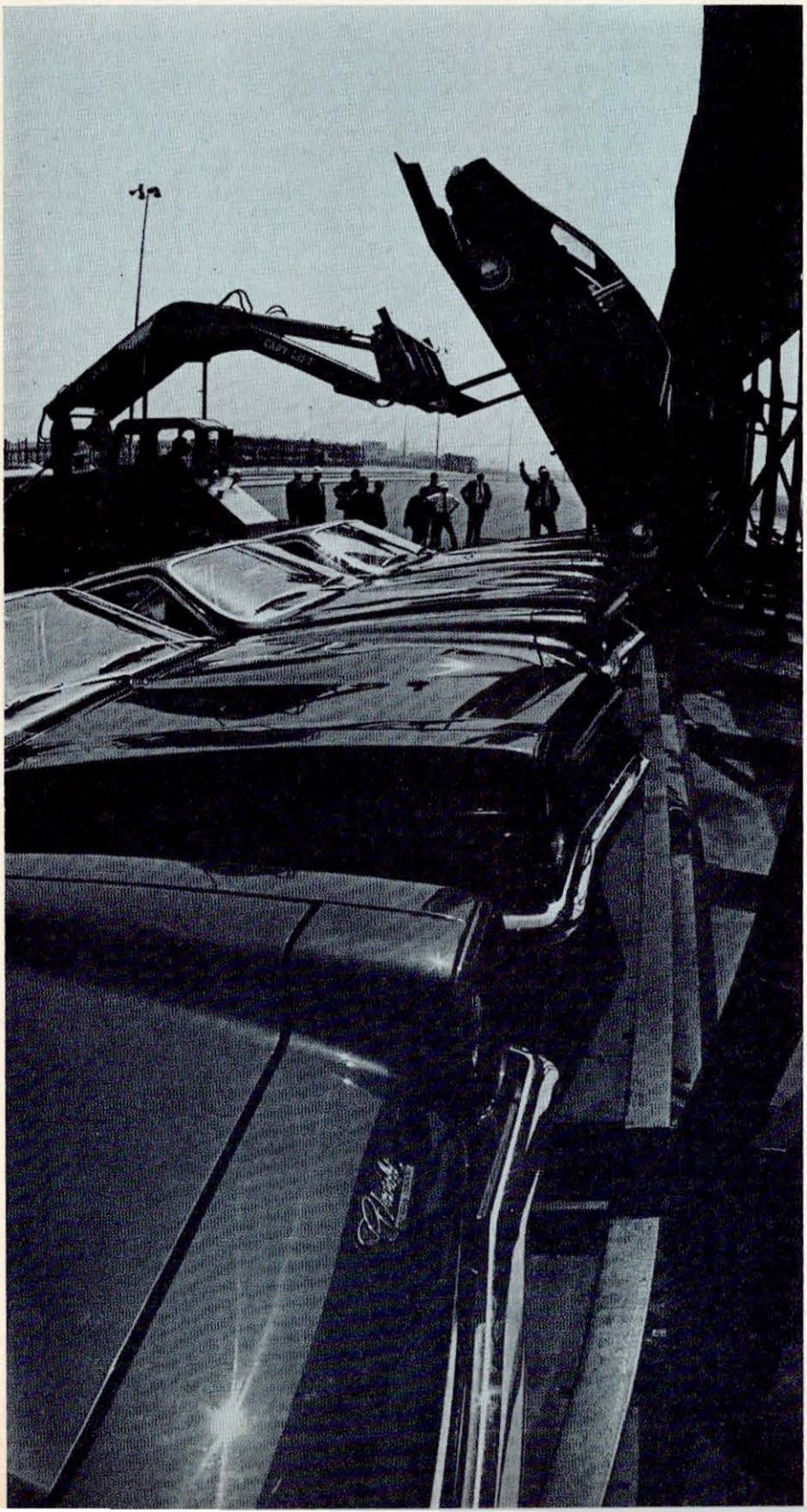
The auto-hauling challenge

How railroads can cash in on Detroit's "golden" decade



Auto-makers are happy with rail service—but they're far from complacent.

By ROBERT D. BARTLEY, Associate Editor

The '60s might be regarded in some transportation circles as the decade in which Detroit automakers were reintroduced to the wheel—the railroad wheel, that is.

If the current activities of two of Detroit's biggest—General Motors and Ford—are any indication, this steel railroad wheel has a golden opportunity to play an even more prominent role in the movement of automobiles and auto parts in the '70s. To fulfill this promising role, however, it appears that railroads will have to undergo a few modifications.

GM and Ford make it quite clear that they are going to be moving ahead at a much faster pace in the new decade. Licking their chops, they see it as a fantastic growth period for the United States, with population zooming up to around 243 million and the Gross National Product perhaps doubling, to around two trillion dollars.

The automakers will share in this growth, and they feel the railroads have an equal opportunity—if they improve their service, and especially if, first of all, they set their sights now on somehow boosting the "rpm's" of operations.

● **A $740-million market now.** The automakers, whose industry spent over $740 million last year for rail services, feel that railroads have the necessary machinery to meet the challenges. They feel, too, that railroads in general have been cooperative as well as innovative in the development of new freight equipment for the auto industry. Things like the giant 86-foot high-cube box cars, and more recently, the Vert-A-Pac that carries subcompact automobiles 30 at a time nosedown, are perfect examples of this cooperative spirit. Automakers' actions in recent months, though, seem to indicate that they feel so far as operations are concerned, that railroads could use an oil change, a grease job and a good tune-up.

GM gave its first inkling last March

FIRST UNIT TRAIN consisting solely of GM automobiles and auto parts is parted at

20 of what it has in mind as to what rail service in the '70s must be like. Ford dropped the other shoe on June 16, when, after about a year of experimentation, it announced, that FAST (Ford Auto Service Train) would soon become a daily operation.

● **Target: Time-Saving.** The unit train concept—common with coal, ore, grain, and so forth—will be the backbone of the two automakers' rail transportation programs. It can save a tremendous amount of time and also lessen the chances of in-transit damage. Both are vitally important in the eyes of Detroit traffic and transportation managers. The age-old cry of the efficiency expert—"time is money"—is taking on new significance, and it will be heard loud and clear in the new decade. If rail service speeds up, automakers feel they can make substantial cuts in their inventory costs.

Speedier delivery, which, in essence, means avoiding terminal bottlenecks, can cut the chances of damage to automobiles riding exposed on auto rack cars. Unit trains, unlike general merchandise trains, can often skirt terminal areas, the scenes of most forays made by vandals. As it was aptly put by R. M. Stevens, Ford's manager-equipment planning, "There's really no basis for relating distance to damage, but there is a definite relationship between time and damage."

● **Something for everybody.** There's something in the unit-train concept, too, for both the railroads and other shippers, the automobile people are quick to point out. Faster service means more frequent turn-around of equipment. This all adds up ultimately to better utilization, an effective way to make the freight-car fleet seem bigger than it really is.

Illinois Central's Markham Yard near Chicago served as the showroom for GM's first unit train. There, at 10 p.m. on March 20, a 93-car train, loaded exclusively with GM automobiles and auto parts, departed on the first leg of a 2,720-mile journey to the Los Angeles area. Turned over to Southern Pacific (Cotton Belt) at East St. Louis, Ill., it continued its dash to the West Coast, arriving there in just 62½ hours.

The train's first 28 cars—tri-level auto racks carrying more than 350 automobiles, many of them Cadillacs—went to Los Nietos for unloading. The remaining cars, loaded with such components as motors, gas tanks, bumpers and fenders, went on to nearby GM assembly plants at Southgate and Van Nuys.

Little time was wasted in getting a train of empties re-grouped for the return trip. On March 25, the train of empties was hustling back to Chicago. From there, the cars moved back to 23 Michigan plants for re-loading.

● **Ford's first FAST.** Ford's first non-experimental FAST train, loaded solely with Ford products, departed from Flat Rock, Mich., in mid-June, its destination also being the West Coast. Freight cars loaded earlier at plants in the Detroit area as well as at Lima, Ohio, and Windsor, Ont., first were grouped in the Detroit, Toledo & Ironton classification yard in Flat Rock before moving out as a unit to meet appointments at Ford plants in San Jose and Los Angeles. Departing on Tuesday night, the FAST train pulled into the Los Angeles area on Friday afternoon. Involved in the virtually non-stop dash to the West Coast, in addition to DT&J, were Norfolk & Western, Union Pacific, Santa Fe, SP and Western Pacific.

Since making its initial unit train run last March, GM has made a number of others, using different routings. In April, for example, a 100-car GM unit train, carrying a $5-million cargo, was formed in Rock Island's yard near Chicago. Its destination, too, was the Los Angeles area, moving via RI to Tucumcari, N. M., where SP once again took over for the final leg of the 60-hour run. Then Burlington Northern got into the act. It moved a 47-car unit train out of Chicago the same month on a 56-hour journey to the San Francisco Bay area. Participating in that test run were the UP and the SP again.

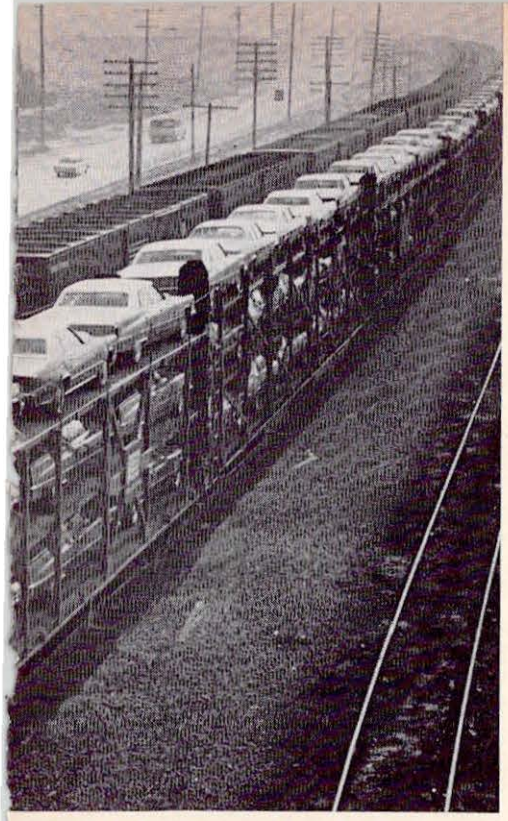
Before the GM plants began tapering off production of the '70 models and started tooling up for the new ones, close to three dozen unit trains headed for the West Coast were formed in Chicago by either IC or Rock Island. Now that the new models are being introduced in showrooms across the country, the unit-train program is about to resume.

● **New destinations?** As production of the '71 models moves into full swing, GM plans to use the same routes to the West Coast which were tried prior to model-changeover time. Also being investigated are unit-train routings to the Eastern Seaboard. The chances are pretty good that such eastbound trains will materialize sometime during the '71 model year.

Ford ran its experimental FAST trains for the first time in mid-1969 between the Detroit area and Louisville and Atlanta. Before making the first full-fledged FAST train run last June, this automaker made several other experimental runs, testing the concept.

At Ford, the FAST program for the '71 model year is already jelling. Last week, the first FAST train of the new model year was scheduled to depart from Flat Rock for the West Coast, routed DT&I, N&W, RI, D&RGW and WP. This train is scheduled to run daily on a five- or six-day work week throughout the model year. Eventually, according to Stevens, all western roads will be involved in the West Coast runs, with the routings being changed probably on about a 30-day basis.

In all likelihood, FAST trains will be seen operating out of Flat Rock to eastern points, too, before the end of the year. Ford's transportation and



City of Industry, near Los Angeles.

Methods of shipping motor vehicles from factories

Source: Automobile Manufacturers Association

	Highway		Rail		Water		Total motor vehicles shipped
1959	6,055,798	90%	538,293	8%	134,573	2%	6,728,664
1960	6,862,004	87.2	763,320	9.7	234,947	3.1	7,869,271
1961	5,127,560	76.8	1,368,685	20.5	180,266	2.7	6,676,511
1962	6,024,000	73.7	2,059,000	25.2	90,000	1.1	8,173,408
1963	6,433,000	70.8	2,521,000	27.7	136,000	1.5	9,090,000
1964	5,724,000	61.6	3,550,000	38.2	18,000	0.2	9,229,000
1965	6,512,000	58.9	4,445,000	40.2	100,000	0.9	11,057,000
1966	5,558,000	54.1	4,721,000	45.7	20,000	0.2	10,329,000
1967	4,614,000	51.4	4,344,000	48.4	18,000	0.2	8,976,000
1968	5,445,000	50.8	5,252,000	49.0	21,000	0.2	10,718,000
1969	4,891,000	48.2	5,246,000	51.7	10,000	0.1	10,147,000

VERT-A-PAC RAIL CARS like this one will be common sights in General Motors unit trains moving from the Midwest to West Coast receiving points.

traffic department is currently looking into routings of FAST unit trains to Oakville, Ont.; Mahwah and Metuchen, in New Jersey; and Norfolk, Va. Roads which would probably be involved would be DT&I, Penn Central, N&W, Erie Lackawanna, Chesapeake & Ohio and Canadian National.

Similar trains to the South and Southeast, as well as to Chicago and St. Paul, are also being considered and could become realities during the new model year. Roads being considered for the runs south out of Flat Rock are DT&I, PC, Southern and Louisville & Nashville. Possible routings to Chicago and St. Paul would be DT&I, N&W, C&O, Milwaukee Road, Chicago & North Western and BN.

● **How it's done.** You'd think that, as in GM's case, getting all the unit train's cars loaded at the two dozen or so Michigan plants, having them routed to Chicago for consolidation, getting them to the West Coast for unloading, then regrouping them for the return to Chicago and finally filtering them back to the originating plants, could become a logistical nightmare. GM thought so, too. That's why, earlier this year, the giant corporation decided to appoint a special staff to manage its transportation functions.

The GM staff function, Logistical Operations, was placed under the command of Milford Barron, who had been director of purchasing and production control of GM's AC Sparkplug Division.

Studying the transportation scene, Barron and his staff came to the conclusion that GM could "actually create a train all of its own and have it run on an almost daily schedule to the West Coast." The problem would be one of logistics—getting plants in Michigan, and neighboring states to develop shipping schedules which could be coordinated so as to create a unit train of GM products. Further study indicated that Chicago would be the best collecting point for the loaded cars to be formed into the unit train.

● **Speeding up the cycle.** The big incentive in developing the unit train concept was, of course, the savings in time which would be generated. As has ben discovered, about 30% less time is needed to complete a load-ship-unload-return cycle. "We are finding that the 'roundtrip' concept is saving us nearly a week in the shipping cycle from Michigan plants to the West Coast," Barron says.

As the acronym FAST suggests, Ford set out to beat the time problem, too, with its unit-train concept. Like GM, Ford discovered that the concept is helping reduce turnaround time for equipment by 30%. In its experimental runs, the automaker found that loaded transit time to Atlanta could be reduced 25%; to Louisville, 50%; and to the West Coast, 30%.

Sadly, it was a deteriorating rail service that got Ford to thinking about moving its products differently. Richard Haupt, director of transportation and traffic, allows as how Ford rail service performance has dipped by 50% in the last five years. Alarmingly, he adds, it's at "its lowest level in the 20 years I've been with Ford."

● **That terminal problem.** He cites terminal congestion as one of the major reasons for train speeds averaging only

FOR RACK LOADING OF AUTO PARTS—This specially designed Santa Fe box car is almost a link in the assembly line at Ford plant near Los Angeles.

slightly over 20 miles per hour these days. Most terminals are outmoded, he adds, and the problems there are compounded by such things as trains that are too long. Modern yards can handle the long trains, but the older yards, some built in the '20s and '30s, are often overwhelmed by them.

Fortunately, Haupt continues, FAST allows most, sometimes all, terminals along the route to be skirted. He figures that the railroads of the '70s can't afford — in terms of money or service— to move automobiles and auto parts in the same manner they did in the '60s.

Today, it costs a railroad about $4,600 a year to own an 86-foot high-cube box car, excluding per diem, maintenance and extra handling costs. A trilevel auto-rack car's cost is around $3,200 annually. The 60-foot high-density auto-parts cars average out to about $3,500 each. So, a railroad really can't afford to have one of these cars standing idle too long somewhere in a terminal yard—or, as Haupt calls them, "parking lots."

● **Money-saver, car-saver.** A 50-car FAST train operating regularly to the West Coast, according to Haupt's calculations, can save the railroads between 200 and 225 cars. As the decade passes, such unit trains should increase in size somewhat. If they should reach, say, 60 cars each, the savings in cars needed to perform the job could jump to 250. On the basis of a 60-car unit train, Ford estimates the savings for the railroads would be about $900,000.

All that gold should not glitter in the pockets of the carriers only, though, Ford figures. Although it would be the first to admit that everyone's costs—including those of railroads—have been going up in recent years, this automaker is still smarting from some of the freight-rate increases of the past two years, as well as current ones proposed. Thus, since FAST is its idea, and since such a system can't produce any savings without Ford's initiative, the Dearborn-based automaker feels it should share in these savings.

A 30-car unit train, Ford traffic experts calculate, doesn't really warrant Ford sharing in the savings. Anything above that level, however, would. And it believes a discount would surely be in order.

● **"Tunnel vision"?** Despite all the successes which have been chalked up by the GM and Ford unit trains, a number of hurdles still have to be cleared if rail service is to perform on the level automakers will be expecting. Any traffic moving in interchange service always becomes an industry problem if it is not handled properly. Railroads, the automakers contend, must cure their "tunnel vision" and treat service problems as industry problems, not individual railroad problems.

Most of the time, service (or the lack of it) is judged by on-time appearance of a shipment at the receiving yard or dock. There's more to it, though, than just that. Service also involves the arrival of a shipment in the same condition that it left the shipping point. Often, it is this facet of service that brings about new developments, or new adaptations, of rail equipment.

In addition to the plans of GM and Ford to get shipments delivered faster, there are other movements afoot to get these shipments delivered safely. Ford and GM have submitted requests to the railroad industry for side protection panels on all their auto-rack cars by the 1972 model year (that would be August or September of next year).

● **Volume plus protection.** GM and SP put their heads together several months ago and developed the Vert-A-Pac car concept. Aside from being able to haul 30 of the new Chevrolet Vega 2300s, this high-roofed, hinged-side car provides full protection for the new subcompact Vegas while they're in transit.

Two years ago, railroads serving Ford went through the painful and costly process of completely changing out the chain tie-down equipment on 4,500 Ford rack cars to prevent any undercarriage damage on new models. Railroads, therefore, are receptive to new ideas, in most cases.

The plan for equipping auto-rack cars with side protection panels, or shielding, is running into a certain amount of opposition, however. The AAR, through its committee on specially-equipped freight cars, has yet to make any decision on the side-protection program. An independent survey of the entire claim problem is being conducted now.

Ford has performed some studies of its own on test cars equipped with shielding, and the results show a 40% reduction in claims cost. Tests made with shielded GM rack cars show results closely paralleling the Ford findings. New-automobile damage claims on the protected cars were down about 43%, according to GM's Barron.

● **Protection is costly.** With a fleet of around 19,000 rack cars, railroads simply have to be somewhat reluctant to shell out anywhere from $1,000 to $2,000 a car to equip them with protection from rock-throwers and other vandals. There are some within the industry who think that, while rock-throwing is a serious problem, it may not be the most serious one. As one freight-claims agent on an eastern road pointed out, "Protection panels aren't going to prevent vandals and thieves from boarding the rack cars in yards and terminal areas. They steal us blind in those places, pry open trunks and doors, smash windows, and do other malicious things like that."

Full protection—the "out of sight, out of mind" approach—is making news again, although application is on a limited basis. If railroads can't break the time barrier and employ more unit trains, then full enclosure of the automobile may be the answer.

Vert-A-Pac is a perfect example of a car which can keep the load out of sight. Its big attribute is, of course, its load-carrying capacity. At the same time, though, it should go a long way toward cutting in-transit damage.

SP, which jointly developed V-A-P with GM, has just added 119 of the huge automobile carriers to its fleet. Other roads are adding 64 cars—Rock Island (16), MoPac (21), Milwaukee Road (12), and Denver & Rio Grande Western (15).

One of the first production-line V-A-Ps, built by Amcar division of ACF Industries, with the St. Louis Car Division of General Steel Industries, Inc. building the above-deck structure, completed a run to the West Coast in early

(Continued on page 79)

Shaping the track of the future

By **MERWIN H. DICK,** Engineering Editor

In the matter of research and thinking dealing with permanent ways for railroad and other ground transportation vehicles there are two environments in existence in this country today.

One environment is that of the practical track engineer whose primary concern is trying to maintain huge mileages of existing trackage that basically is not much different from what it was a hundred or more years ago. His attempts to improve this type of track have been confined to strengthening or upgrading components of the existing design.

The other environment, in some respects at least, is worlds removed from the first. It's a world in which those who exist in it are not confined in their thinking to the steel-wheel-on-steel-rail concept. While seeking ways to improve the performance of that concept they are free, indeed obligated, to probe the possibilities of entirely different methods of propulsion and the types of permanent ways required for them.

In this world the terms "linear induction motor" (LIM) and "tracked air cushion vehicle" (TACV) are common-place. These vehicles may move on "guideways" instead of tracks. They may even move underground in "evacuated" tubes. Vehicle speeds of 300 mph are talked about in a casual manner, and, once in a while, speeds up to 500 mph crop up in conversations.

This second environment exists only in Washington or in research institutions around the country or in those segments of private industry that emphasize advanced technology. But basically it springs from a group of researchers and engineers working in the Office of High Speed Ground Transportation, Federal Railroad Administration. This group first came to life as a child of the Department of Commerce but was transferred to the FRA, Department of Transportation, when that body was formed in 1967.

● **What the OHSGT is.** What is the OHSGT and what has it been doing? For one thing it's a think-tank that is in the process of creating and executing a research and development program that is more ambitious, imaginative and comprehensive than anything yet seen in the history of railroading, or ground transportation for that matter. For another, while endeavoring to inject new efficiency in the steel-wheel-on-steel-rail concept, including the track structure, it is getting set to explore the possibilities of any other modes that appear to have promise.

Since the OHSGT came into existence the people responsible for carrying out its objectives have been working quietly to get their program off the ground. It is off the ground and their efforts are gaining momentum. In the course of these efforts OHSGT representatives have occasionally accepted invitations to speak before professional groups in the railroad field. These appearances have apparently been greeted with a collective yawn. One representative who had made several such appearances remarked that he had received no feedback whatever. Does this signify that there is a gulf between the two environments? A gulf which perhaps needs to be bridged by more effective lines of communication?

● **How it's organized.** Gulf or not, the OHSGT is proceeding with its program as rapidly as available funds and staff will permit. Heading up the activities of this group is Myles B. Mitchell, acting director. Mitchell explained that there are three operating divisions:

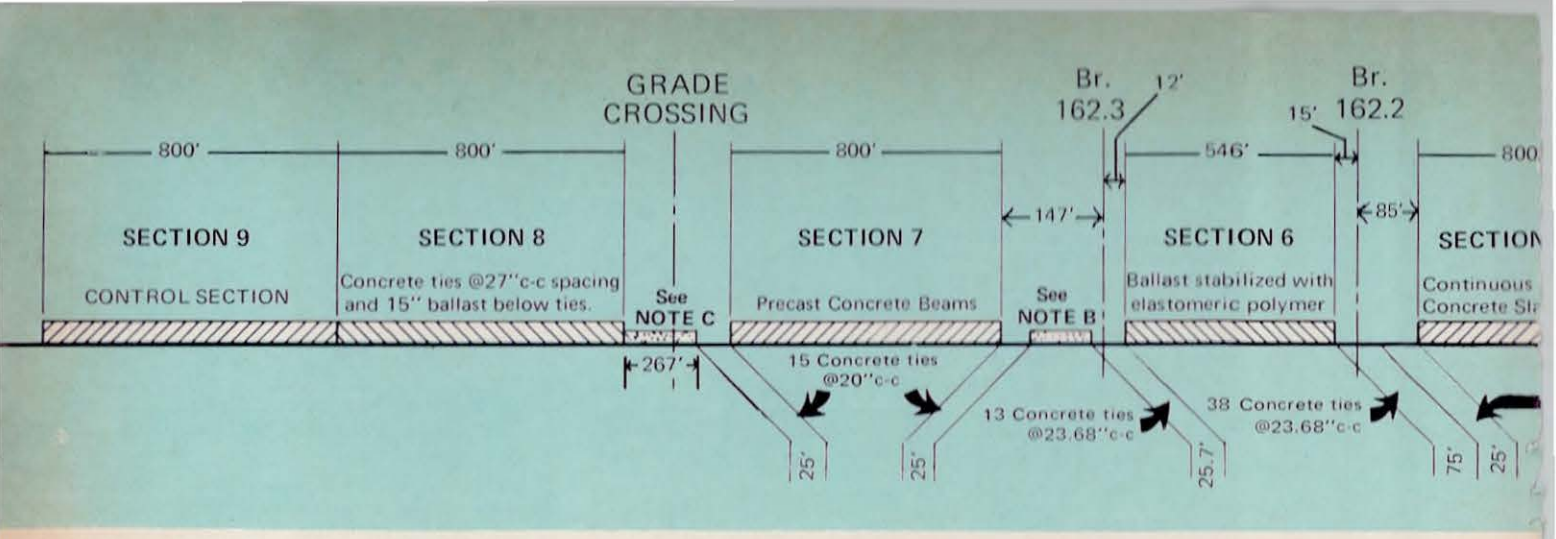
—The Advanced Systems division which is directed by Edward J. Ward, chief of engineering, research and development, OHSGT.

—The Rail Technology division which is directed by Kenneth L. Lawson with the title of chief of the division. Lawson's efforts are concerned primarily with conventional railroad transportation.

—The Demonstration division. Chief of this division is Robert Smith. He is concerned with demonstration projects such as those involving the Metroliners and the TurboTrains.

Another key members of the staff is William B. O'Sullivan, the sole track engineer in the Rail Technology division. O'Sullivan, who came to FRA from the Boston & Maine, has responsibilities mainly in connection with projects involving experiments with track or with the interaction of track and equipment.

The thinking and expertise that Ward and Lawson and their staffs are bringing to their assignments comes out in interviews with them. The interviews also bring out the scope and far-ranging nature of their planning. Undoubtedly, forces have been set in motion that eventually will have a profound effect on railroad transportation.



EIGHT EXPERIMENTAL TRACK SECTIONS are scheduled to go into service on the Santa Fe under heavy freight traffic around

Santa Fe test track: what it will

The test track being projected as a joint venture of OHSGT and the Santa Fe is an example of the long-range nature of the thinking that is going into the OHSGT's research efforts. The likelihood is that young men now entering the railway engineering field will be well along in their careers before the sequence of events generated by this test will have run its course.

The Santa Fe test is the OHSGT project that is most closely related to today's problems, says Kenneth Lawson, chief of OHSGT's Rail Technology division. This test will cover 8,000 feet of track in a heavy-duty freight line of the Santa Fe in Kansas. The project was initiated when OHSGT was still in the Department of Commerce. While it still has significance for its value in the development of high-speed passenger service, the primary objective now is something else.

"Stability," says Lawson, "is the name of the game. What we are looking for is a type of track structure that will have the ability to maintain its geometry and its resilience for longer periods under greater stress than contemporary track may be able to."

● **Not playing games.** Something else that came through strongly in the interview with Lawson is the careful planning that has gone into the Santa Fe test, which doubtless has had the effect of prolonging the preparations. "We wanted to make very sure," said Lawson, "that we are justified in everything we are doing and not simply playing games in the field. We want to be prepared ahead of time to get all the records and data and significant facts about the experiment so that we don't live to regret that we had not measured something that should have been measured or not recorded a construction fact that should have been recorded."

Such care in planning was motivated in part by observations of previous experience with track experiments by individual railroads. "Much effort has been expended on track experiments over many years on a localized, narrow basis," said Lawson. "All this was done with perfectly good intent and with careful planning. But the results were not of as much use to the railroad industry or for future planning as might have been the case if all pertinent facts had been recorded.

"This points out a characteristic of our program which is perhaps important. That characteristic is that we think our role is to provide general criteria, general facts of science about railroading for all of the railroad industry to use, rather than to solve local, specific problems. We think the railroads are capable of doing a good job of handling these problems now, and therefore our limited resources are better applied to the general case. Our aim, therefore, is to provide broad criteria on which specific designs can be based."

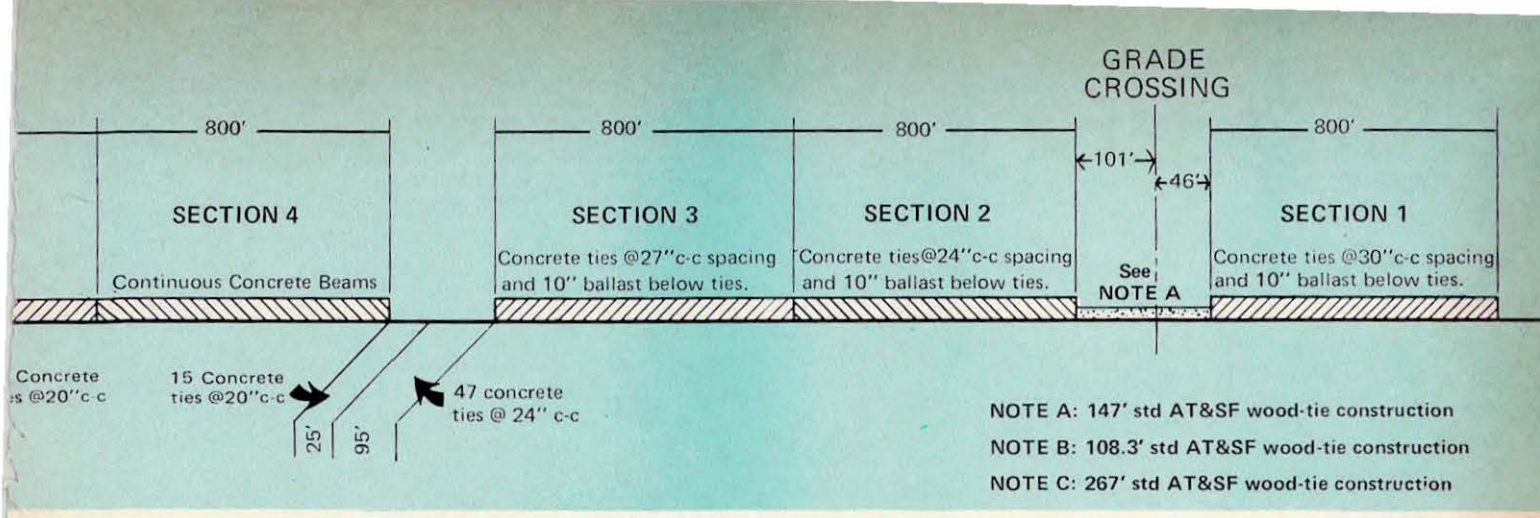
● **Biggest unknown: The subgrade.** It was the group's regard for careful planning that resulted in additional time being required in readying the Santa Fe project. A specific factor was the realization, said Lawson, that the subgrade was not receiving sufficient attention. This came out during a conference held several years ago which included railroad personnel and consultants. "During this meeting," said Lawson, "we all came to the realization that the biggest unknown to us—and in past track experiments—is the subgrade beneath the ballast.

"As an outgrowth of this concern about the embankment we found that the rock beneath the track at the Kansas site occasionally rose quite close to the grade. Factors of this sort caused us to look for alternative sites. Although we became quite serious about a site in New Mexico because of its uniformity, the narrow variation of the climate at that site and the somewhat different traffic conditions caused us to finalize on the original site in Kansas. Instead of a site relocation there will be some removal of rock, which might not otherwise be done. And also some care in the location of the test sections so that the uniformity of embankment height will not in the opinion of the experts interfere with the validity of the results."

● **Selecting the candidates.** The candidate structures to be included in the Santa Fe test have been debated very thoroughly, says Lawson. "It was very easy to be tempted into a great number of experimental sections, but the limits of budget, time and space, and the challenge of reducing the resulting data to manageable proportions, forced us to keep the number of variations within bounds. At this time there are a total of nine experimental sections, one of which is the control section consisting of standard Santa Fe construction. So there are eight experimental sections" (See drawing). Continous welded rail will be used throughout.

In selecting components for the test, such as concrete ties, a basic criteria was used, said Lawson. "Specific components are not the subject of the experiment," he said. "It is the over-all functional concept which is the subject of the experiment. In furtherance of this concept it was necessary to use the same concrete tie in all four test sections involving such ties."

● **What concrete tie?** Lawson indicated that, although a decision was near at hand, a final selection of the concrete tie to be used had not been made. He had a word of caution in any tendency to draw inferences from the



Sept. 1, 1971. A wide variety of track components will be tested. (Ninth track section will be for control purposes.)

look for—and why

selection of a particular tie. "The tie chosen," he said, "will be selected for its over-all dimensions, its ability to provide a functional member in a total system, and there will be no inference that the products not used are in any way considered inferior."

A condition in the selection of a concrete tie for the Santa Fe test is that it will be one of the three in a test track on the Chesapeake & Ohio/Baltimore & Ohio at Noble, Ill. "The reasoning is that we will have a fairly good cross control between our experiments and the data resulting from the C&O/B&O experiment," explained Lawson.

The concrete slabs and beams to be incorporated in the Santa Fe test will be procured on an advertised bid basis according to specifications drafted by OHSGT. "We will be happy to accept proprietary products," said Lawson, "providing they conform to these specifications within reasonable limits."

● **Only one fastening.** What about the fastenings for the concrete ties and the beams and slabs? "For the concrete ties we will use the same fastening in all of the test sections," said Lawson. "We are specifying the stiffness of the pad and making sure that the hold-down and tolerances of the fastening will not interfere with the experiment. On the concrete-slab-and-beam sections we may have to sponsor development of the fastening to be used although we are optimistic that an existing fastening can be selected. Again it is the intent to use the same fastening on all the concrete structures so that the fastening itself is not a variable. There will be plenty of time in the future, or in subtests in laboratories, to choose between optimum fasteners."

Lawson said he expected that the embankment for the Santa Fe test would be completed this fall. The track structure is expected to be completed during the summer and fall of 1971. The expectation is that freight traffic will be cut over onto the test section about September 1. The existing main line will remain so that, if problems should develop on the test section, traffic can be diverted back to the original track.

The test installation will involve instrumentation in the embankment and on the ties and the rails. "Objective of the instrumentation," says Lawson, "will be to determine the actual dynamics—the stiffness of the rails, ties, ballast and embankment—both laterally and vertically as traffic passes over the track. As the data are analyzed we will be able to identify the influences which determine the over-all performance."

● **Measuring performance.** "Basically, the performance will be measured by keeping a record of the track geometry and the vibration environment of the traffic on it over a long period of time. We will probably use our test cars as part of the instrumentation for determining track geometry over its life. Several years may be required before conclusive data can be compiled.

"There is a question still to be resolved as to maintenance criteria for the track. Most likely we will establish a track standard of geometry for the entire section with a rejection tolerance and a maintenance tolerance. All track will start out at, or as close as possible to, the maintenance or construction standard. It will then deteriorate at some rate, each section deteriorating at a different rate, and when the major portion of any section exceeds the condemnation tolerance the track will be brought back to the construction level. The work required to do this will be carefully recorded so that, after several such cycles, we should have an indication of the maintainability of the particular concept.

"As to the long-range significance of this experiment, no one pretends that it will be an end to all track-design investigations. It's a step. Some of the concepts in the experiment lend themselves to reconstruction of existing roadbeds. Others, such as concrete slabs, lend themselves probably exclusively to new construction, such as a domestic version of the New Tokaido Line should it develop in our future."

Lawson does not expect that any of the sections in the test track will prove to be a final design. For one thing, he notes, it is on tangent, almost level track. "Therefore,' he says, "it is naturally anticipated that the next cycle in the development will be to take the most promising concepts, maybe as few as one but no more than two or three, and, perhaps after some redesign, to experiment with them on grades and curves."

During all of this effort Lawson expects that OHSGT will be working in close cooperation with "any and all railroads" which may be conducting their own experiments with various track components such as in the Noble experiment. "It is possible that the next phase, if one can call it that," he said, "would be a joint effort with one or more railroads, not necessarily the Santa Fe."

● **Railroads as partners.** Speaking of the Santa Fe, Lawson described OHSGT's relationship with that road as "a very good one which we hope to duplicate again and agin, with the railroads collaborating as partners in the projects." On the Santa Fe test, he explained that the railroad is acting as prime contractor. The basic arrangement is that the government will reimburse the carrier-contractor for its "avoidable" expenses. The Santa Fe has made no charge for staff work nor is there any charge for general com-

pany overhead. All expenses for material purchases, "local shop burdens" and subcontracting are paid for by the government.

Still another arrangement was mentioned by Lawson, under which the government and railroad collaborate without any money changing hands.

He also mentioned other types of track research that are contemplated. One had to do with plans for investigation of rail-defect detection, "looking for ways to detect incipient defects which are not now detected by available equipment." He also wants to find a way to measure the stress in any rail in service.

● **Studying welded rail.** It is also the intention to study "the basic phenomena involved in the stability of continuous welded rail, such as the circumstances leading up to sun kinks."

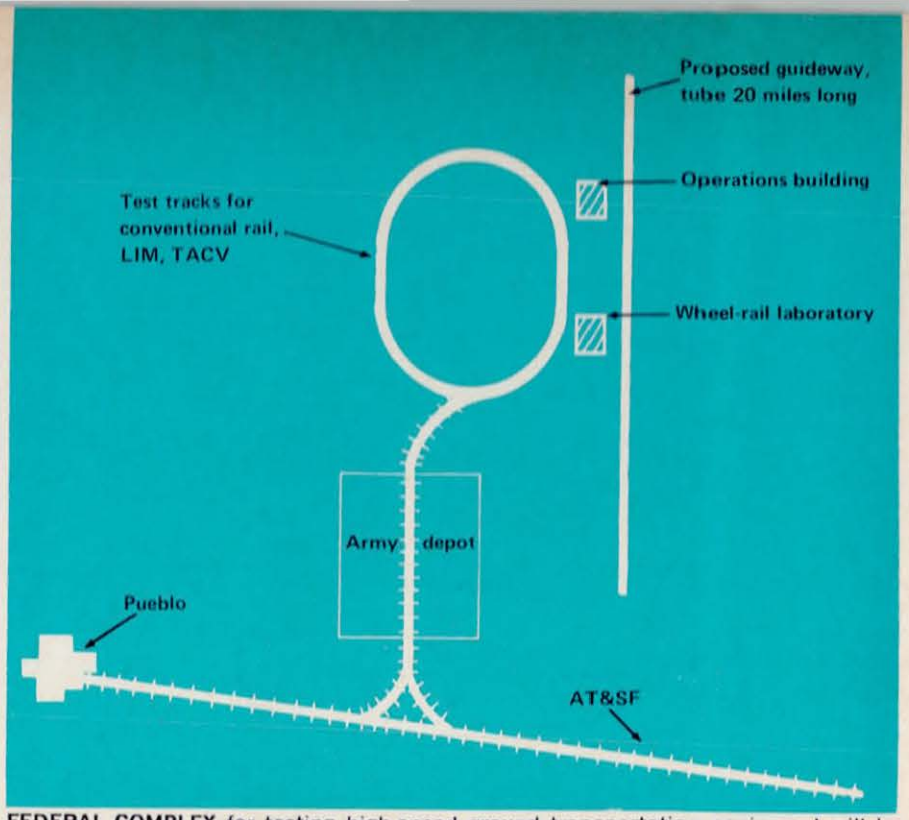
Another area in which Lawson and his staff are working has to do with the interaction of wheels on rails. In the early stages this involves computer simulation work aimed at identifying "the characteristics of wheel-rail forces as a function of speed and vehicle parameters."

Field experiments have been made, and will be continued, in an effort to learn more about the interacting effects of track roughness and vehicle characteristics at various speeds.

Lawson hopes that the data developed, now available in published form, will serve as criteria for the design of equipment and the development of standards. "We expect to extend this kind of work in the near future," he says.

● **Coming: The "thumper."** Further serving to underscore the far-ranging nature of the research being done or contemplated are plans for the development of a device that has been dubbed colloquially as the "thumper." Lawson explains: "This would be a portable device which would impose vibrations upon track in the field and measure the response in a seismic sense. This device, similar to some equipment already used to test highway pavement, would provide a source of dynamic response data for use in analysis and simulation."

How much of a staff does Lawson have at his disposal for conducting the diverse work that comes under his supervision? This effort, he explains, "is currently a matter of six professionals in-house and about $2.5 million per year in contract work. We have requested staffing and funding increases over the next two or three years which would approximately double these figures." He goes on to say that additional requests would have to be made if new responsibilities were to be imposed on FRA by the passage of legislation dealing with railroad safety or passenger-train projects.



FEDERAL COMPLEX for testing high-speed ground transportation equipment will be 12 miles northeast of Pueblo, Colo. It will have about 18 miles of conventional track and a 21.8-mile oval guideway for testing 300-mph tracked air-cushion vehicles.

New test center for high-speed vehicles

Coming to the activities of OHSGT's Advanced Systems division, which are under the direction of Edward J. Ward, the center of thinking remains in Washington but the focus of physical activity is in the process of being shifted to a location near Pueblo, Colo.

There, on a 45-square-mile tract of land, is being established a Federal test center for high speed ground transportation. On this tract, which is served by the Santa Fe, a complex has been projected that will include facilities for testing advanced types of vehicles, such as the TACRV, the "R" standing for research. Also to be included is a wheel-rail dynamics laboratory now in the design stages under a contract to Wyle Laboratories.

As explained by Kenneth Lawson, the dynamics laboratory will have "definite significance in the track field in that it will provide basic testing capability to determine the effect of track geometry and track modulus on the overall performance of railways." In this facility shakers and dynamometer equipment will stimulate the track through the use of rollers and hydraulic actuators. Lawson explained that "while the real-life part of the experiments will be the vehicle rather than the track, the behavior of the total system will have as much significance for track technology and maintenance as it will for vehicle design." The dynamics laboratory is scheduled for completion in 1972. For use in conjunction with the work at the dynamics laboratory 18 miles of conventional track will be constructed at the Pueblo site.

● **Purpose: Testing the LIM.** One of the more immediate projects scheduled for the Pueblo complex has to do with feasibility tests of the linear induction motor which will be used in tests of the TACRV. The initial LIM to be tested will be a 2,500-hp unit. The vehicle in which this LIM will be tested, already built by the Research Division of Garrett Corp., is mounted on modified high-speed trucks with steel wheels at standard gauge. For testing this vehicle an initial section of track 6.2 miles long is under construction at the Pueblo test center.

Basically, this track will be of conventional construction, but special attention is being paid to compaction, and quality will be very carefully controlled. This track will have an aluminum plate, or reaction rail as it is

(Continued on page 45)

PRODUCT SHOWCASE

WITH CONVENTION PROGRAMS

Roadmasters' and Maintenance of Way Assn.
American Railway Bridge & Building Assn.

For the Roadmasters' and B&B conventions this is a non-exhibit year. To help fill the gap Railway Age and Railway Track and Structures have joined in producing this special section. It contains, first, complete details about the programs of the two conventions and a schedule of AREA committee meetings to be held at Chicago during the conventions. Second, readers will find a "showcase" of manufacturers' offerings, consisting of advertisements and illustrated descriptions of new or improved products or established products that would be on exhibit if this were an exhibit year.

CONVENTION PROGRAMS

WHAT, WHEN, WHERE DURING ROADMASTERS', B&B MEETINGS AT THE SHERMAN HOUSE, CHICAGO, SEPTEMBER 18-20

Joint sessions

(Grand Ballroom)

Monday morning, September 28

9:30 am – Invocation by Dr. Kenneth Hildebrand
Welcome by presidents of Bridge & Building and Roadmasters' Associations
Greetings from E. Q. Johnson, president, American Railway Engineering Association
Greetings from F. O. Johnson, president Railway Engineering-Maintenance Suppliers Association
Remarks by E. J. Powell, first vice president, REMSA

10:00 am – Address on "The Challenge of the Seventies," by T. D. Moore, gen. mgr., Clinchfield

10:30 am – "Make Way for Progress"–a slide presentation by Railway Progress Institute narrated by F. O. Johnson, member, board of governors, RPI

11:00 am – Address on "Public Policy in Today's Railroads," by James H. Macananny, director–Office of Policy and Planning, Federal Railroad Administration

Tuesday Morning

9:30 am – Address on "Life in This Changing World"–(Computerization–illustrated) by D. S. Bradley, vice president, electronic data processing, May Department Stores

10:00 am – Address on "Our Industry and its Labor Relation," Harold C. Crotty, president, Brotherhood of M/W Employees

10:30 am – The Alaska Railroad–Comments and moving picture, Irvin P. Cook, chief engineer

11:15 am – Adjournment

Tuesday Evening

Grand Ballroom—Informal

6:30 pm – Annual banquet of the Roadmasters' and Bridge & Building Associations–sponsored by the Railway Engineering-Maintenance Suppliers Association. Tickets issued only to paid-up members of the two associations and their wives.

Bridge & Building sessions

(Executive Ballroom)

Monday afternoon

1:30 pm – Address by President J. A. Goforth
Recognition of past presidents

2:00 pm – Report of Special Committee No. 1–Maintenance and Renewal of Tunnel Linings (ill.), J. A. Caywood, chairman (senior vice president, Deleuw, Cather & Co.)

2:45 pm – Report of Standing Committee No. 1–Materials (Waterproofing–ill.) Freeman Drew, chairman (bridge engineer, Milwaukee Road)

3:45 pm – Address on "Latest Developments in Super-Spans," (ill.), by C. L. Fisher, chief advisory engineer, railroad sales, Armco Canada, Ltd., Winnipeg, Man.

4:30 pm – Adjourn

Tuesday afternoon

1:30 pm – Report of Special Committee No. 2–Posting Piling Using Epoxy Resin (ill.), J. W. Storer, chairman (vice president, Osmose Wood Preserving Co.)

Directory of AREA committee meetings to be held during convention week

As shown by this tabulation a total of 12 standing committees of the American Railway Engineering Association has scheduled meetings to be held at various times during the annual conventions of the Roadmasters' and Bridge & Building associations. In addition four subcommittees of the Committee on Track will hold meetings. The AREA Nominating Committee will also meet during the period. All of the meetings will be held at the Sherman House, Chicago.

Committee	Date	Time	Room
1–Roadway & Ballast	9-28	8:30 am– 5:00 pm	105
5–Track	9-29	9:00 am– 5:00 pm	107
Sub. Comm. 5	9-27	9:00 am– 5:00 pm	104
Sub. Comm. 6	9-28	1:00 pm– 5:00 pm	111
Sub. Comm. 7	9-27	2:00 pm– 5:00 pm	108
Sub. Comm. 8	9-28	1:00 pm– 5:00 pm	108
6–Buildings	9-29	9:00 am– 4:00 pm	110
8–Concrete Structures & Foundations	9-30	1:00 pm– 5:00 pm	106
	10-1	9:00 am– 4:00 pm	106
9–Highways	9-29	9:00 am– 5:00 pm	108
11–Engineering & Valuation Records	9-29	9:00 am– 5:00 pm	105
	9-30	9:00 am– 5:00 pm	103
20–Contract Forms	9-28	1:00 pm– 5:00 pm	103
	9-29	9:00 am– 5:00 pm	104
22–Economics of Railway Construction & Maintenance	9-29	2:00 pm– 5:00 pm	106
25–Waterways & Harbors	9-30	1:00 pm– 5:00 pm	102
27–Maintenance of Way Work Equipment	9-29	9:00 am– 5:00 pm	113
28–Clearances	9-30	9:00 am–12:30 pm	104
31–Continuous Welded Rail	9-28	1:00 am– 5:00 pm	107
Nominating Committee	9-28	1:00 pm– 5:00 pm	106

J. A. Goforth
President
B&B Association

F. E. Huddleston
President
Roadmasters' Association

2:30 pm – Report of Standing Committee No. 2–Equipment and Tools (High-Rail Equipment–ill.), E. A. Albert, chairman (superintendent bridge erection, Illinois Central)
3:00 pm – Report of Special Committee No. 3–Progress in Development and Testing Track Scales for Coupled-in-Motion Weighing (ill.), A. L. Hunter, chairman (structural inspector, Bessemer & Lake Erie)
3:45 pm – Presentation on Communications by Cecil G. Kersey, director personnel development, Burlington Northern, including color moving picture on "Breaking the Delegation Barrier."
5:00 pm – Adjourn

Wednesday morning

9:30 am – Business session
10:00 am – Bridge Repairs Behind Hurricane Camille (ill.) –Reconstruction of Southern's Tye River Bridge by J. W. DeValle, chief engineer bridges, Southern
L&N's Experience With Its Bay St. Louis Prestressed Concrete Bridge, L. F. Currier, associate engineer, Louisville & Nashville
11:00 am – Address–Derailments and Dangerous Chemicals (ill.), E. R. Schlaf, superintendent of fire prevention, Illinois Central
11:30 am – Election and installation of officers
12:00 noon–Adjourn

Roadmasters' sessions

(Grand Ballroom)

Monday afternoon

1:45 pm – Address by President F. E. Huddleston
2:00 pm – Recognition of past presidents
2:15 pm – Report of Special Committee No. 1–Concrete Ties–Extent of Use and Special Problems of Installation and Maintenance, J. S. Collins, chairman (DeLeuw, Cather & Co.).
2:45 pm – Report of Special Committee No. 2–A three-part report: Part 1–Field Welding of CWR Strings–Methods and Problems: Part 2–Proper Anchoring for CWR and Jointed Track: Part 3–Relocating or transposing CWR–Methods & Desirability. A. A. Davidson, chairman (division engineer, Southern).
3:15 pm – Report of Special Committee No. 4–Track Construction–Methods Now in Use and Relative Costs, N. J. Vito, chairman (track supervisor, Erie-Lakawanna)
Movie–The Libby Dam Line Change
4:15 pm – Announcements–adjournment

Tuesday afternoon

1:45 pm – Report of Special Committee No. 3–Causes of Derailments and How to Identify Them, R. P. Hoffman, chairman (engineer analyst, train-accident program, C&NW)
2:15 pm – Report of Standing Committee No. 2–Track Inspection, J. W. Brent, chairman (assistant chief engineer, C&O/B&O)
2:45 pm – Panel Discussion–Track Recorder Cars: R. G. Maughan, assistant chief engineer, CN; T. P. Woll, engineer, FRA; C. R. Kaelin, assistant manager, research & testing, Southern
4:15 pm – Announcements–adjournment

Wednesday morning

9:30 am – Report of Standing Committee No. 3–Roadway–Restoration After Hurricanes and Floods (ill.) J. T. Hiner, chairman (assistant chief engineer maint. N&W)
10:00 am – Report of Standing Committee No. 1–Machinery–Use of Highway-Rail Equipment in M/W work, J. K. Russell, chairman (roadmaster, Santa Fe)
10:30 am – Business session
11:00 am – Adjourn

By **F. O. Johnson**
President, REMSA

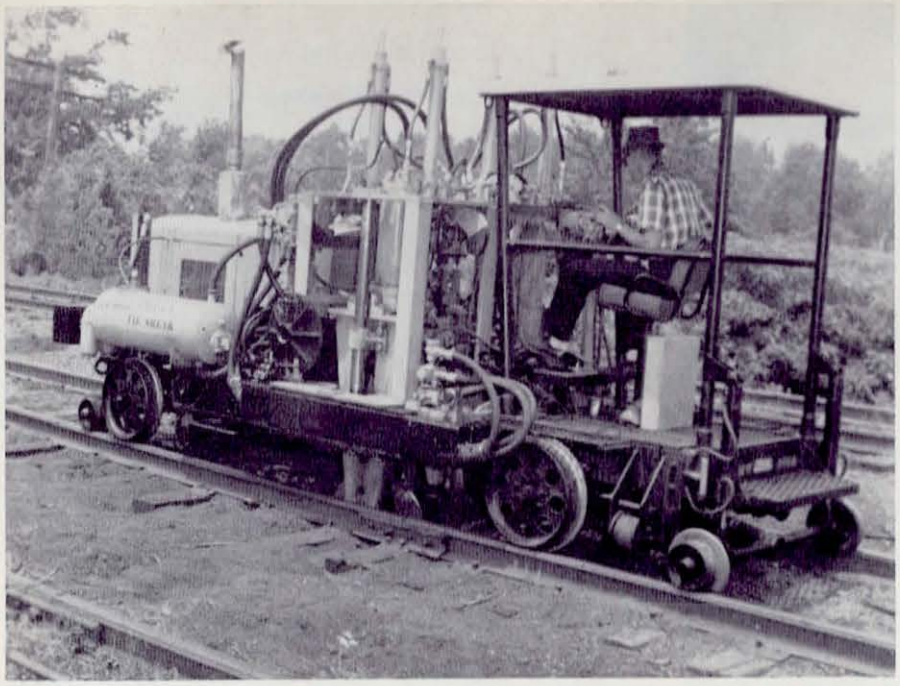
A welcome and offer of cooperation from REMSA president

As president of the Railway Engineering-Maintenance Suppliers Association, I am most pleased to extend greetings and a welcome to all of you attending the 1970 annual conventions of the Roadmasters' and Bridge & Building Associations from the full membership of REMSA.

The cordial and mutually beneficial relationship our associations have enjoyed for many years is a continuing source of pride to all of us who have had the opportunity of working together. A review of the program for this year again demonstrates the thoughtful preparation which provides the invaluable information so helpful to all of us in making the engineering branch of our railroad industry the strongest possible.

Although we are 18 months away from the next exhibit scheduled at the International Amphitheatre in March, 1972, the members of REMSA are always prepared to assist you and your associations in seeking new and improved methods to assure advancement in the areas of safety, economics and efficiency in the maintaining and building of your track and structures.

May I also extend to each of you an invitation to attend the traditional annual banquet sponsored by REMSA which will be held in the Grand Ballroom of the Sherman House, Tuesday evening, September 29. Our best wishes for successful conventions.

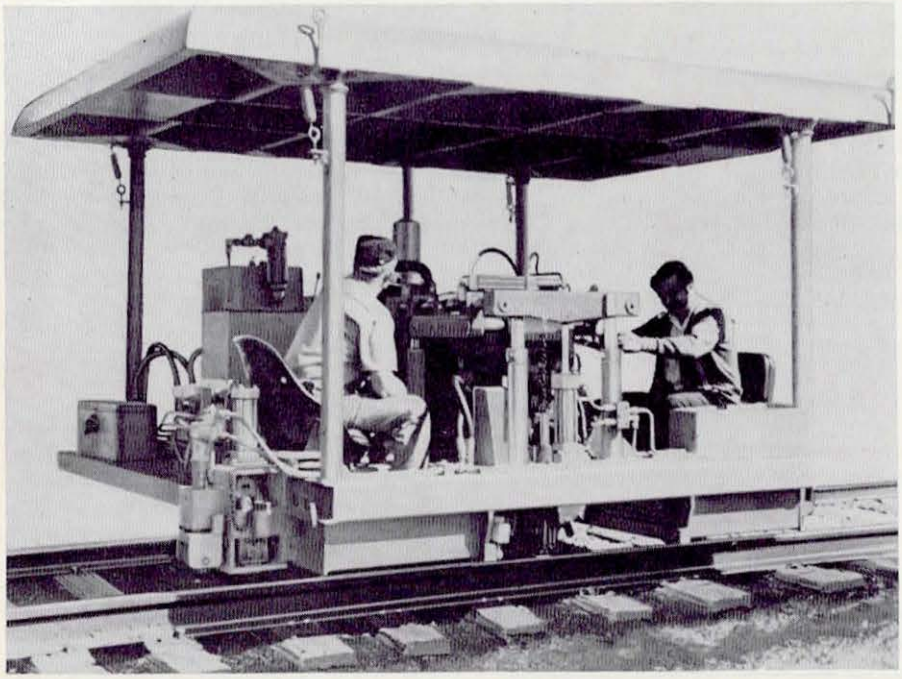


REMOVES OLD TIES FAST

Tie gangs are assured of high production with the use of the W114 Tie Shear, it is claimed, as one man with this unit will remove four ties per minute.

Two large shears, working simultaneously, cut the tie into three pieces and pick up the center section. After the machine moves a short distance, hydraulically powered arms push the two tie-end pieces out from under the rails as the shears release the center section, dropping it between the rails. Shear blades are made of low-alloy steel, with high abrasive resistance and are hard-faced to provide long service life. *Fairmont Railway Motors, Inc.*

Circle 76 on reader service card

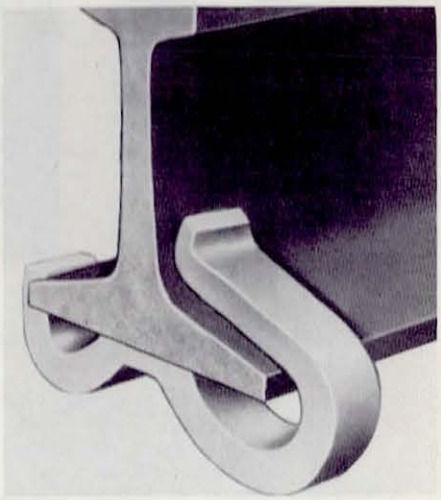


HIGH-PRODUCTION SPIKER

A machine designated the Rail Gang Spiker is designed for the high production needed by a rail-laying gang for setting and driving spikes. This unit, using two operators, is capable of setting and driving up to 840 spikes per hour, according to the manufacturer. One man controls the spike-driving mechanism while the other feeds spikes into the spike trays from previously distributed kegs along the track.

The spiker is hydraulically propelled and operated by electric push-button controls. It has front and rear hydraulically operated rail clamps for holding the machine firmly to the rails during the driving operation. An outstanding feature is a carriage that holds the driving guns on each side of the rail and which can be hydraulically positioned to place the guns directly over the holes in the plates. The guns also can be positioned for driving anchor spikes. With its 2000-psi pressure, the spiker is said to push spikes into the tie with a smooth and continuous operation. *Nordberg Mfg. Co.*

Circle 77 on reader service card



IMPROVED RAIL ANCHOR

The Improved Gautier Rail Anchor is a one-piece anchor which can be applied by maul or machine. Because of its substantial takeup, it gives satisfactory service on new or secondhand rail, says the manufacturer, and the fact that it has a spring design with a natural no-overdrive feature is said to permit many applications with retention of adequate holding power. The Improved Gautier Rail Anchor also is available in a light weight design. *Mid-West Forging & Mfg. Co.*

Circle 78 on reader service card

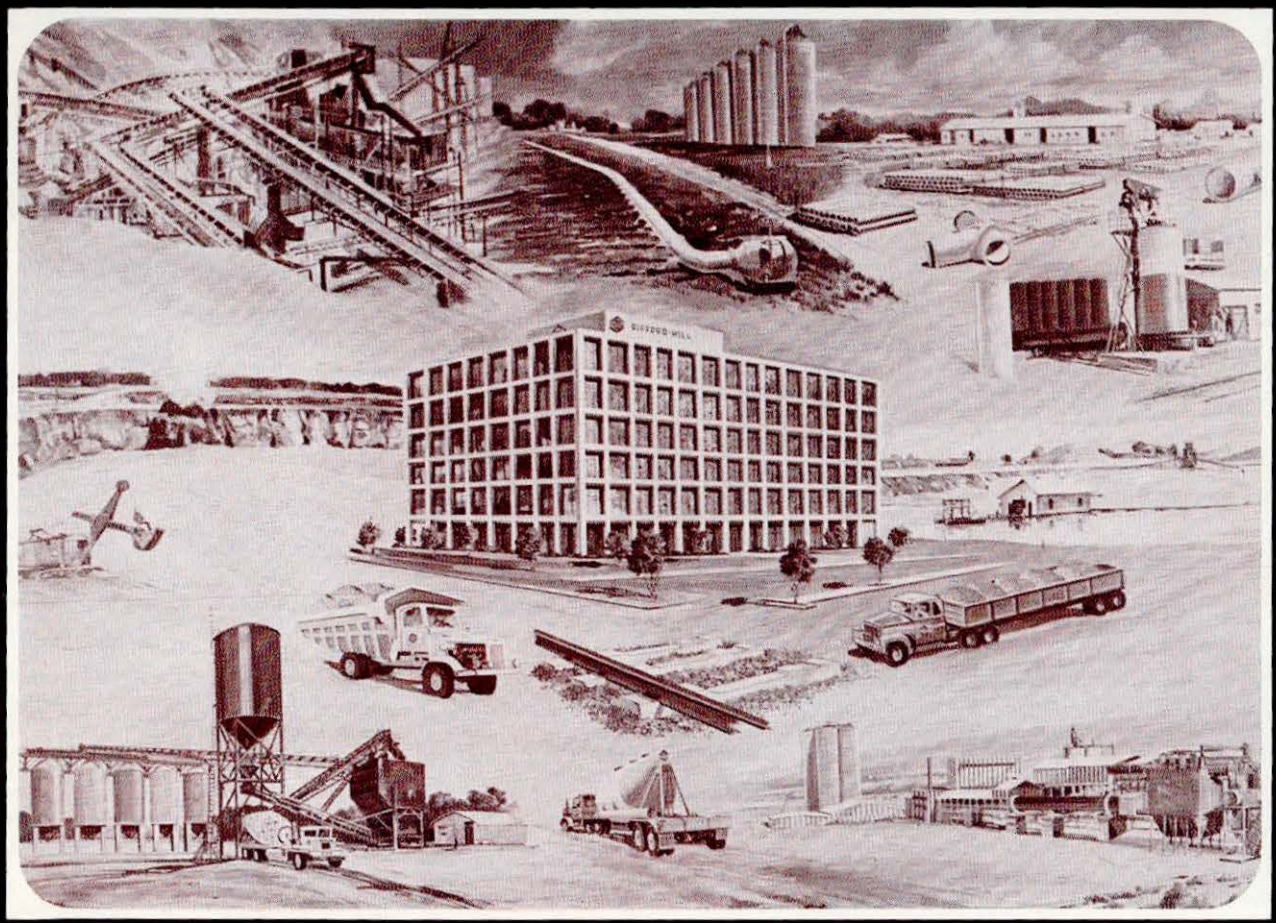
TRUCK-MOUNTED CRANES

Two models of truck-mounted hydraulic cranes, designated Pitman Hydra-Lift, are available. All components of the main frames of both models, including the outrigger housings, are welded into one unit for maximum strength and rigidity. Standard main frame assembly includes telescoping outriggers, dual control stations, topping cylinder, turret assembly, engine-start button, load line, swivel hook, downhaul weight and snatch block. Booms are fabricated of new high-strength, heat-treated steel of box-beam design. Turret rotation is 375 deg with mechanical stop.

With outriggers fully extended and all booms retracted, Model HL-95 has a lifting capacity of 4 and 5 tons at 4-ft radius and 1.5 to 1.7 tons at 14-ft radius; and Model HL-135 has a lifting capacity of 6.5 to 7 tons at 4-ft radius and 2.4 to 2.25 tons at 16-ft radius. Both models obtain their power from the truck engine through a power take-off. *Pitman Manufacturing Co. Division, A. B. Chance Co.*

Circle 79 on reader service card

For track permanency



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RAIL ANCHORING TEAM

The latest cost-saving "team" of machines offered by Racine is the improved "Ballast-Cribber" (foreground) and the new "Anchor-Matic" combination rail anchor-setter and applicator (background). Each unit is also used for other types of operations. The Racine "Anchor-Matic" is used for production rail laying and tie-replacement programs and the Racine "Ballast-Cribber" is used ahead of a production Rail-Joint Straightener. *Rex-Racine Rail Products Division, Rex Chainbelt Inc.*

Circle 80 on reader service card

GRASPS TIES 24 FT AWAY

Model TH-2170A is a new RTW Tie Handler having a 24-ft reach with an articulating boom and a 750-lb lifting capacity. It is a hydraulic machine powered by a GM Model 5023-7101, 43-hp diesel engine through a Vickers M-PVB 45 variable-volume piston pump having a maximum delivery of 45 gpm at 1800 rpm and pressure of 1350 psi. It is self-propelled with four-wheel jack shaft drive powered with a heavy-duty gear-type hydraulic motor. Clearing speed is 20 mph.

The deck rotates 360 deg continuously in both directions and the hydraulically actuated boom travels 36 deg up and 46 deg down. The tie tongs also have 360-deg continuous rotation. Standard equipment includes tool box, horn, open-sided cab, set-off wheels with hydraulic lifting device and hoisting eye, and a heavy-duty bumper. *Railway Track-Work Co.*

Circle 81 on reader service card

LARGE MOTOR GRADER

Model 140 Motor Grader is designed to serve the needs of those who require a 150-hp machine with quality performance and yet without the many premium features standard on the Caterpillar No. 14E machine. Model 140 is the largest mechanically controlled grader built by the manufacturer.

Major features include a six-cylinder, 150-hp turbocharged engine, an oil clutch, six-speed constant-mesh transmission, and a box-section frame. The standard moldboard measures 12 ft by 24 in by 7/8 in and is equipped with 6-in by 5/8-in DH 2 steel cutting edge for long life. The circle is 60¼ in. in diameter, made from special steel, boxed for rigidity and the teeth are flame cut for close uniform contact with the circle reverse gear. A sideshift rack allows a wide range of blade positions. *Caterpillar Tractor Co.*

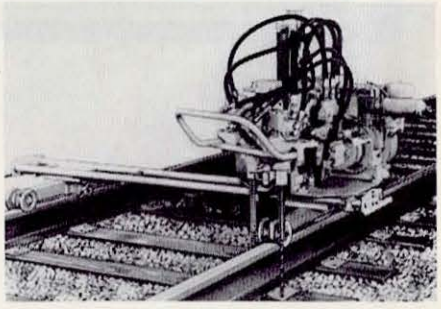
RECLAIMS USED SPIKES

The Nordberg Spike Straightener enables a steel or tie gang to reclaim spikes which are bent or excessively coated with rust, oil or grease and would otherwise be scrapped or cause feeding problems in the driving-gun mechanism of spiking machines.

The machine consists of two basic parts: A straightening press, which is powered by a gasoline engine-hydraulic pump-oil reservoir package; and a PG Grinder powered by another gasoline engine.

The press exerts 30,000 lb of pressure to straighten bent spikes which are inserted by the operator two at a time, point first. Two hydraulic control valves must be simultaneously activated to operate the press; the operator's hands are safely removed from the straightening operation. The PG Grinder is equipped with an emery wheel and tool rest for sharpening tools and with a wire brush wheel for cleaning fouled spikes. *Nordberg Mfg. Co.*

Circle 82 on reader service card



TIE BORER DRILLS TWO HOLES

The Raco Twin Spindle Tie Borer is designed to drill fast, accurate holes for either screw or cut spikes. The unit is compact, efficient and easily operated by one man, says the manufacturer. Design features are said to assure rapid automatic operation that drills holes that are vertical and accurately centered to the correct depth. Drill spacing adjustments are made quickly and power is hydraulically transmitted to the drills, eliminating belts and idlers. The drilling unit is traversed on its carriage from one rail to the other allowing one operator to push the unit and perform all operations. *Railroad Accessories Corp.*

Circle 83 on reader service card

Nordberg announces the new RAIL GANG SPIKER

Here is the machine designed to really speed spiking operations and help save time and money in rail laying and renewal operations. Capable of driving 840 spikes per hour (420 ties per hour), the new 2-man Nordberg® Rail Gang Spiker is self-propelled, using low cost diesel power, and is equipped with hydraulic disc brakes, in addition to an emergency hand brake.

How this new "Mechanical Muscle" works: One man drives the spikes while the other feeds the spikes into the spike trays. The Nordberg Rail Gang Spiker exerts 2,000 psi of hydraulic pressure to *push* spikes into the ties with a smooth, continuous motion—eliminating the possibility of damage to the rail base which might occur from impacting methods. The weight of the Rail Gang Spiker holds the rail against the tie during the spike driving.

In addition to its basic use as a high production rail spiking machine, the versatility of the new Nordberg Rail Gang Spiker is increased through its ability to also drive anchor spikes. This added feature is accomplished by making a slight adjustment in the spiking heads.

Call or write today for further information on this newest addition to the long list of money-saving Nordberg Mechanical Muscles®.

Nordberg Manufacturing Company, Milwaukee, Wisconsin 53201
Telephone (414) 744-2345

NORDBERG *MECHANICAL MUSCLES®*

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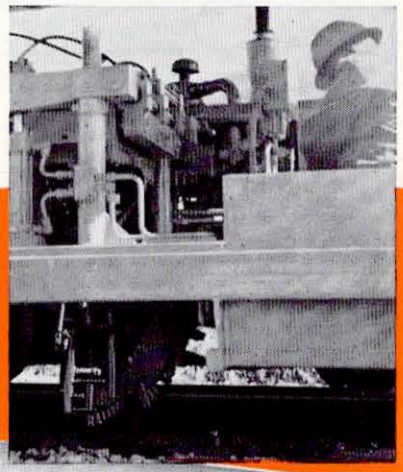
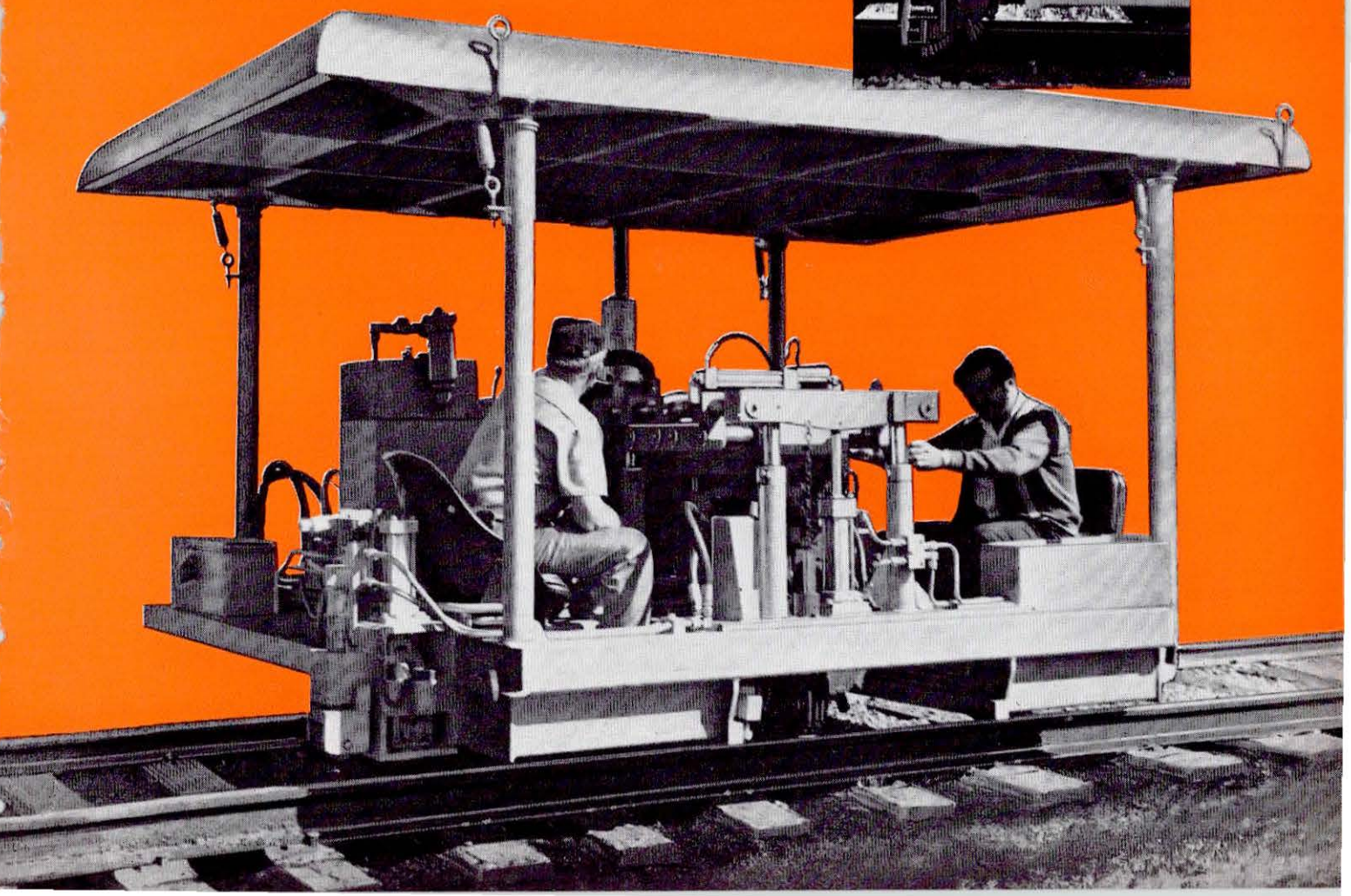
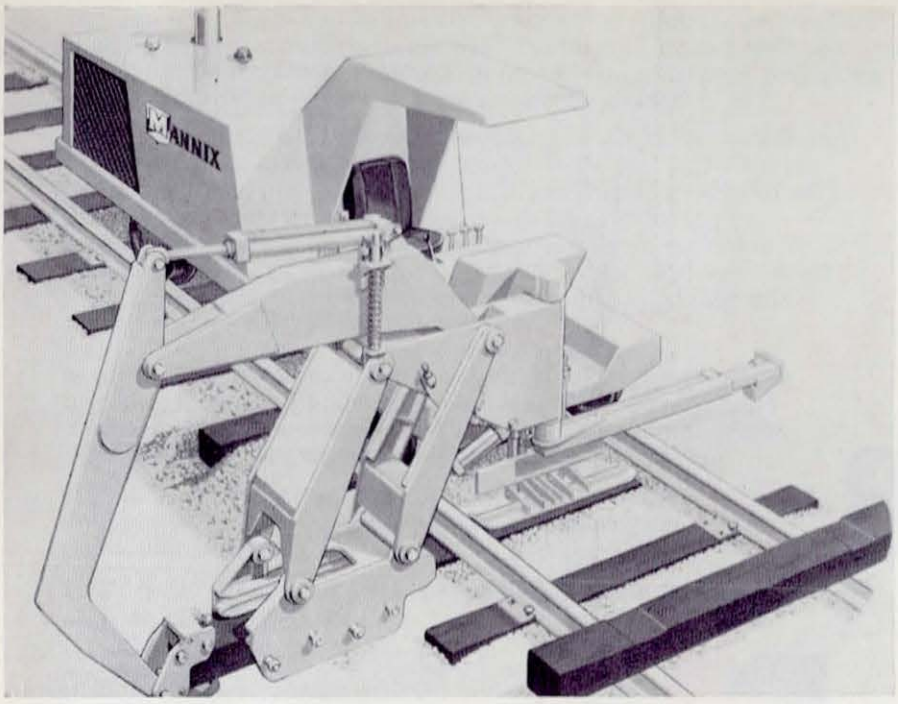


■ Working view of the new Nordberg Rail Gang Spiker, showing one man operating spiking mechanism while the other feeds spikes into spike trays. Rail clamps at either end of the machine keep the machine from moving. ■ Close-up view at right shows how spikes are fed into the spike trays, and lowered into position for rapid spiking.



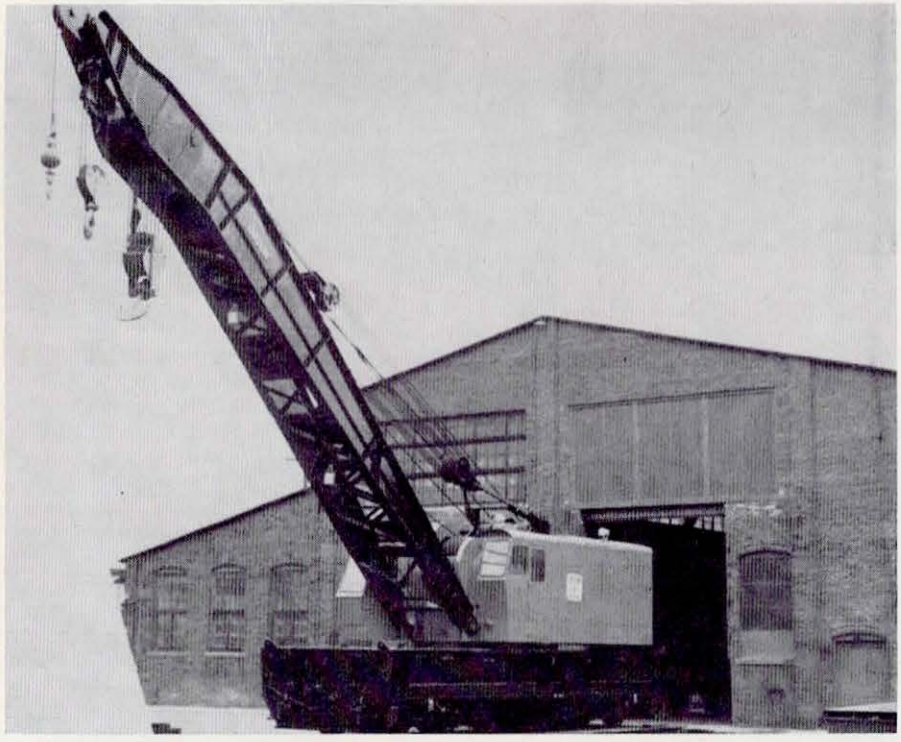


REMOVES AND INSERTS TIES

A new machine, designated the Mannix Ram, has been developed for inserting new crossties and, when equipped with optional jacking and clamping equipment, remove the old ones. New ties are distributed along the tops of rails over the ties to be renewed. The machine grasps the new tie, lowers it to the base of rail level and pushes it into the tie bed. When the jacks and rail clamps are used, the machine pushes the old tie out of the bed as the new one is inserted.

Hand levers, a foot pedal and automatic transmission are used to control the travel, tie positioning and tie insertion. *Maintenance of Way Division, Mannix Construction, Inc.*

Circle 84 on reader service card



NEW LOCOMOTIVE CRANES

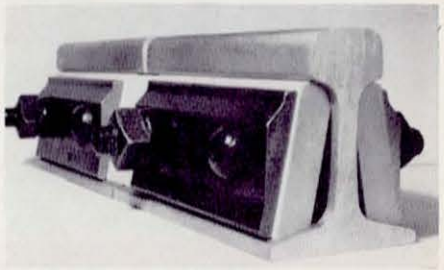
Three new models of locomotive cranes —17H, 50DEL and 250R—have been made available.

Model 17H is a 17½-ton diesel hydraulic crane having hydraulic hoisting and rotate drive; power load lowering of all hoists; variable hoisting speeds; three-speed powershift propelling transmission with integral torque converter, travel speeds to 28 mph; and a short tail swing that allows operation over the side without interfering with adjacent track.

Model 50DEL is a 50/80-ton diesel-electric crane having locomotive-type traction motors; torque converter drive for all hoist functions; roller bearing swing circle; optional hydraulic outriggers; self-folding pile-hammer leads; hydraulic power take off available; and Timken bearings.

Model 250R (pictured above) is a 250-ton diesel wrecker locomotive crane with torque converter drive for all operations; power load lowering on all hoists; dual rack pinion rotate drive; hydraulic outriggers; anti-friction bearings throughout and Timken journal bearings. This self-propelled unit has operating speeds of up to 8 mph. It is powered by a 300-hp Caterpillar diesel engine and is equipped with a complete spare engine connected with the drive mechanism, which can be placed in service in less than 30 min, it is said. Control of the crane is handled by air clutch and brakes. *Orton Crane Co.*

Circle 85 on reader service card

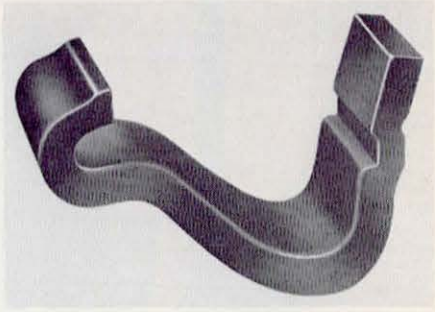


HEAVY-DUTY INSULATED JOINT

A heavy-duty insulated joint, designed for railroads whose track requirements go well beyond the ordinary demands in the areas of rail stresses, wheel loads and traffic density, has been introduced.

This heavy-duty joint, as well as the standard insulated rail joint, are constructed of Scotchply fiberglass reinforced plastic. The manufacturer states these joints are laboratory tested and provide the high strength, durability, reliability and ease of installation, it is claimed, to meet the demanding track requirements of the 1970s. *3M Co.*

Circle 86 on reader service card



RESTRAINS RAIL CREEPAGE

The Unit Rail Anchor is a one-piece anchor that can be applied by machine or hand tool. It is produced from high-carbon, high-manganese steel that is heat treated to insure uniform grain structure throughout the section and is tempered in an electric automatically controlled furnace.

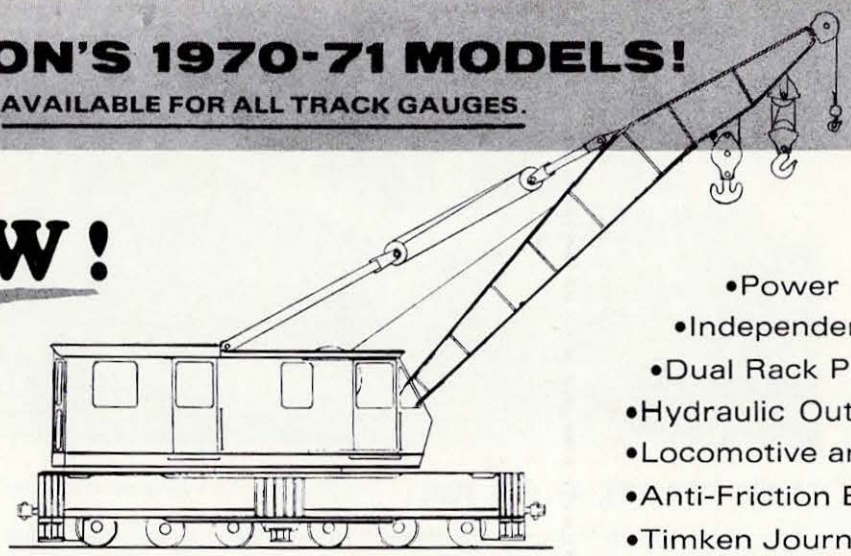
The manufacturer states that the Unit

WHAT'S NEW IN RAIL CRANES?

ORTON'S 1970-71 MODELS!

AVAILABLE FOR ALL TRACK GAUGES.

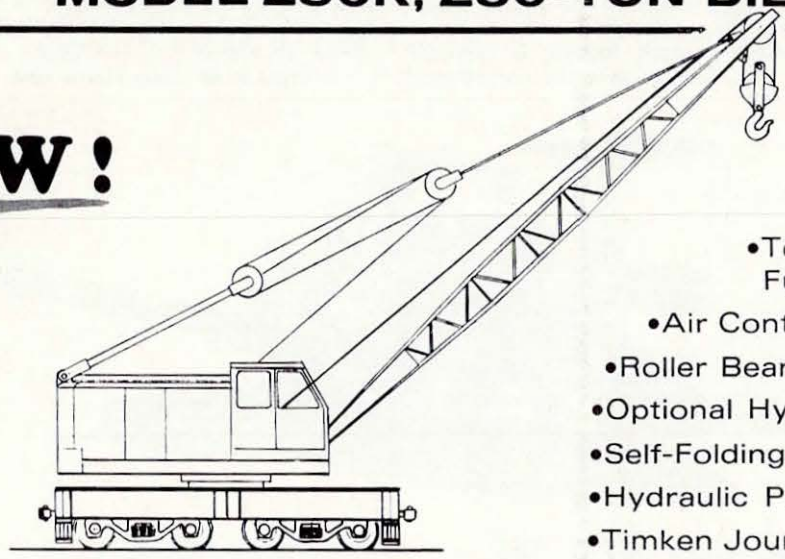
NEW!



- Torque Converter Drive For All Crane Operations.
- Power Load Lowering On All Hoists.
- Independent Air Control of All Functions
- Dual Rack Pinion Rotate Drive.
- Hydraulic Outriggers Standard.
- Locomotive and Automatic Air Brakes.
- Anti-Friction Bearlings Throughout.
- Timken Journal Bearings Standard.

MODEL 250R, 250-TON DIESEL WRECKER

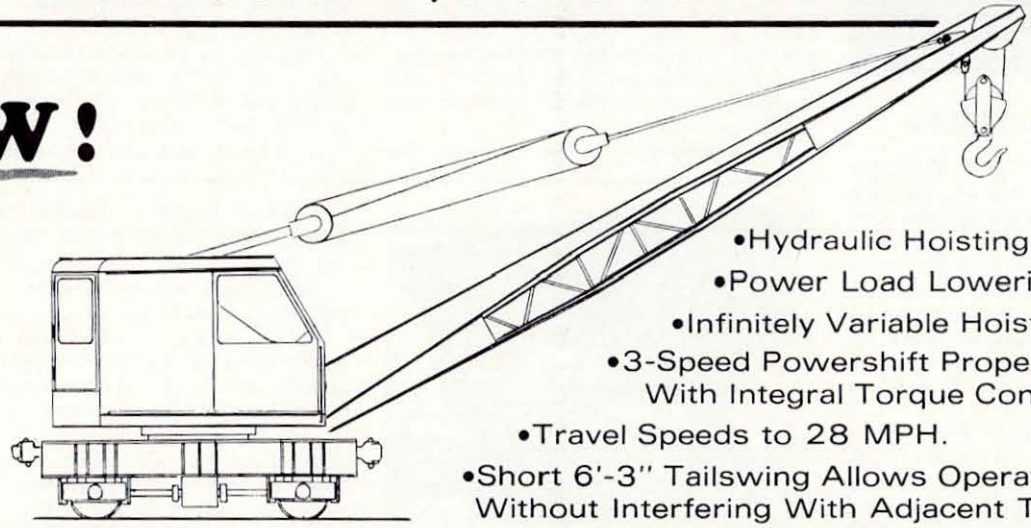
NEW!



- Electromotive Locomotive Type Traction Motors.
- Torque Converter Drive For All Hoist Functions.
- Air Controls of Hoisting Functions.
- Roller Bearing Swing Circle.
- Optional Hydraulic Outriggers.
- Self-Folding Pile Hammer Leads Available
- Hydraulic Power Take Off Available
- Timken Journal Bearings Standard.

MODEL 50DEL, 50/80-TON DIESEL-ELECTRIC

NEW!



- Hydraulic Hoisting And Rotate Drive.
- Power Load Lowering of All Hoists.
- Infinitely Variable Hoisting Speeds.
- 3-Speed Powershift Propelling Transmission With Integral Torque Converter.
- Travel Speeds to 28 MPH.
- Short 6'-3" Tailswing Allows Operation Over The Side Without Interfering With Adjacent Track.

MODEL 17H, 17½ TON DIESEL HYDRAULIC

FOR COMPLETE DETAILS CONTACT:

ORTON CRANE CO.

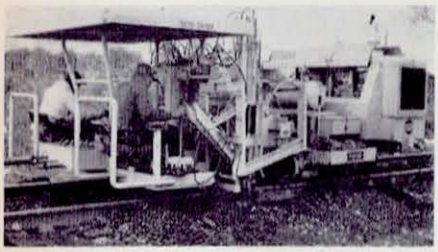
1211 WEST 22ND STREET
OAK BROOK, ILLINOIS 60521 USA

PHONE AREA CODE 312 654-1695 CABLE "ORCRANE"

B6-7C

anchor is re-usable without reforming, is not apt to damage the rail or be itself damaged from derailed wheels, is not subject to over-driving, does not throat-cut spikes or climb up on the top of the tie. In addition, it is said to be equally effective on worn rail as well as on new welded rail under all traffic, ballast and temperature conditions. *The Unit Rail Anchor Co.*

Circle 87 on reader service card

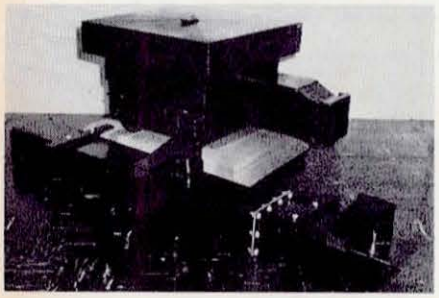


LATEST MODEL AUTO-SPIKER

The third version of the Auto-Spiker is available. The first model has a seat centered between the rails, and one operator drives spikes over each rail. The second model provides for an operator between the rails who can handle all the spiking, but, in addition, adds a helper's seat over one rail with duplicate controls.

The third version is equipped with two operator's positions, one centered over each rail. This model is said to be slightly faster than the second model because the operator has a little better visibility than possible when positioned in the center of the machine. *Railway Maintenance Corp.*

Circle 88 on reader service card

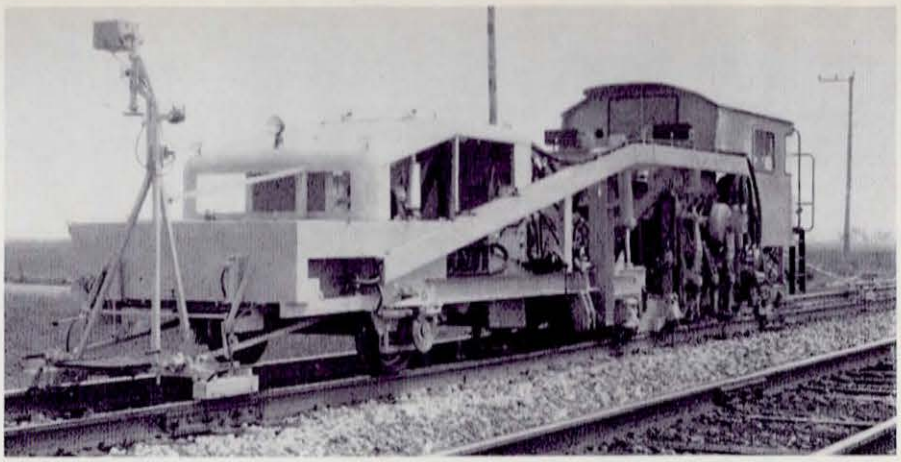


PREVENT SWITCH FREEZE-UPS

The type HAB Switch Heater distributes hot air throughout the switch area by ducts and nozzles to keep switches operable during snow, sleet and ice storms. The heating unit may be oil or gas-fired. A high-pressure blower forces air around the combustion chamber to assure even heat transfer and through the duct work to direct the air flow to where it is needed, heat-retaining shields being used to contain the heat for the switch length.

The heater is comprised of a burner-blower unit into which fuel is introduced, a main duct, insulated for track circuits, containing nozzles and deflector plates, and the heat-retaining shields for each stock rail. A control panel, having two adjustable electronic timers to insure that the burners fire properly within a predetermined time, also is provided. The heaters may be operated manually or automatically with the use of a Snow Detector. *The Rails Co.*

Circle 89 on reader service card



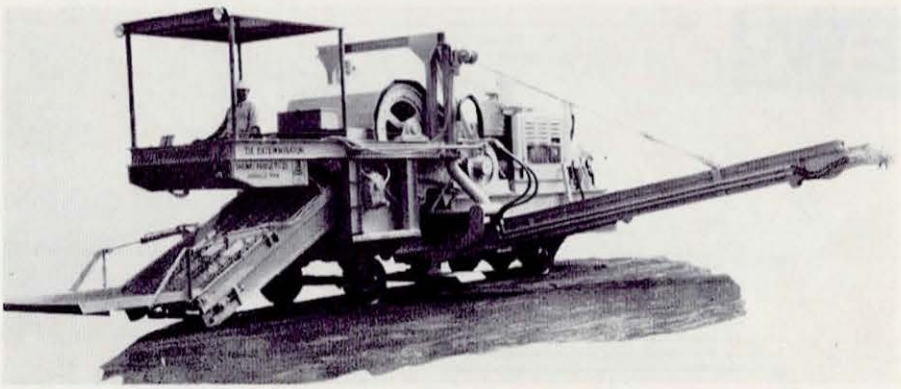
TAMPS TWO TIES AT ONE TIME

The Plasser 06-32 Universal DuoMatic SLC Tamper-Liner is said to be the original and the only proven tamper that lifts, levels, tamps and lines two ties at a time with one-man operation.

Completed track footage is normally more than doubled over the conventional type production tampers, the manufacturer states.

Incorporated in the latest design of this unit are a number of notable improvements, states the manufacturer, including stablizers and a marked reduction of vibration in the frame-mounted, completely enclosed cab. *Plasser American Corp.*

Circle 90 on reader service card



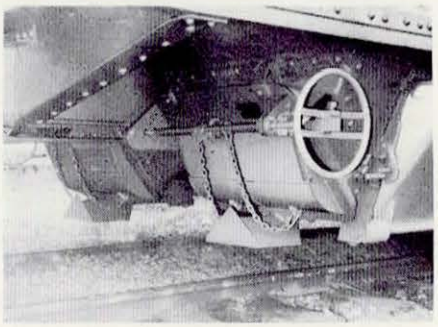
MAKES CHIPS OUT OF TIES

A new machine designed to reduce crosstie chunks to chip size is available. Designated the "Tie Exterminator," this diesel-powered, self-propelled machine is operated by one man and is designed to accept tie chunks from a tie-handler crane or from ground personnel.

It is equipped with two discharge conveyors, one on each side, so the shredded chips can be cast up to 21 ft from the track center to either side of the right of way. The conveyors are provided with a spreader device to disperse the debris.

Propelling is by means of a hydrostatic drive and the machine is equipped with four-wheel Fail-Safe air brakes and a center turntable. *Railway Products Co.*

Circle 91 on reader service card



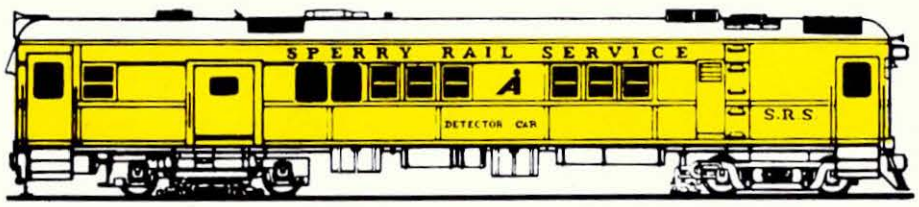
FOR DISTRIBUTING BALLAST

Ballast can be unloaded faster and in the quantities desired, it is said, by applying the Damy ballast doors to any existing hopper car. The manufacturer states that the Damy doors save labor, ballast material and time, as well as permits distributing ballast exactly where needed, increasing or decreasing the flow or stopping it entirely at bridges and highway crossings, and restarting the flow while the car is in motion.

Damy doors are applied four to a car pocket and each door may be operated independently so that ballast may be distributed on the inside of one rail and on the outside of the other, more on one side of the track than the other, or any of 16 selections which can be changed while the train is in motion. It is said that one man can control the complete distribution of ballast from a 70-ton hopper in three to five minutes.

Any hopper car equipped with the Damy doors can still be used in commercial service. *Morrison Railway Supply Co.*

Circle 92 on reader service card



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SPERRY RAIL SERVICE **AUTOMATION INDUSTRIES, INC.** DANBURY, CONN. 06810

Circle 3 on reader service card

UNIVERSAL HY-RAIL GROUP

A basic Hy-Rail group, designated Series 0307, has been introduced with variable spindle and wheel assemblies that will cover all suitable vehicles from 3000 lb GVW (gross vehicle weight) to a maximum of 7800 lb GVW. This group has bolted-on guide-wheel arms and a choice of three guide-wheel assemblies, depending on the vehicle GVW and the intended use of the unit. These are rubber-tread aluminum wheels, rubber-tread steel wheels and steel wheels. Lowest weight with safety is accomplished by using heat-treated aluminum for the cross channel that supports each assembly. This group can be applied to a wide range of units. *Fairmont Railway Motors, Inc.*

Circle 93 on reader service card

FOR BRIDGE-DECK WORK

A new bridge crane, designed to enable bridge forces to replace ties, caps and stringers on open-deck trestles rapidly and economically, has been developed.

It has an 800-lb lifting capacity at 24 ft from the center line of track, and has a special grapple to handle ties by the end. A hydraulic winch is available to provide 4000-lb lifting capacity at 10 ft from the center line of track. An articulated boom and fail-safe rail dogs are standard.

It is powered by a GM Model 5023-7101 diesel engine through a Vickers M-PVB-29 pressure-compensated pump. It is driven by hydraulic motors on both axles through double-chain reduction, controlled by a foot pedal. Clearing speed is 15 mph.

The deck and grapple head rotate 360 deg continuously in both directions and the boom retracts and extends horizontally 17 ft and raises and lowers vertically 24 ft. *Kershaw Manufacturing Co.*

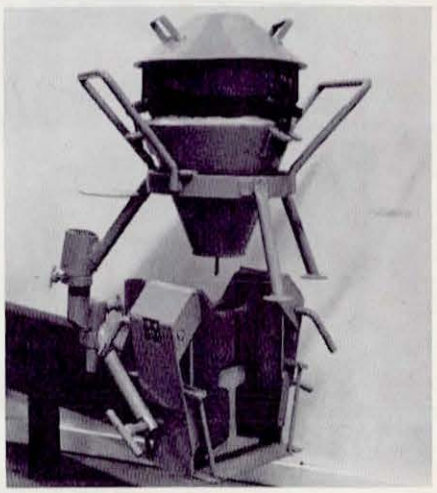
Circle 94 on reader service card

RUBBER-TIRED BRUSH CUTTER

An off-track brush cutter, said to be capable of cutting brush and trees up to 3 or 4 in. in diameter, is available. It has a center oscillating section that permits the machine to negotiate rough terrain and the wheels to maintain equal traction. Large rubber-tired wheels enable the unit to cross over rails with ease and provide flotation on spongy ground. A hydraulic, heavy-duty winch of 18,000-lb capacity also is provided. Dual, rotary, four-bladed, 40-in cutters, independently driven by hydraulic motors, are capable of left and right rotation and together cut a 7-ft swath.

The machine is powered by a GM Model 10-2 truck-type, 110-hp diesel engine through a hydrostatic 4-wheel drive utilizing a variable-volume pump. Vickers double-vane pumps furnish drives for the cutter motors, lift cylinders and steering cylinders. The cab, fully enclosed and weatherproof, is of the cage-type tubular construction for operator protection. *Kershaw Manufacturing Co.*

Circle 95 on reader service card



BUTT-WELDING OF RAILS

The manufacturer states that a new approach to alumino-thermic welding of rails is offered by the Calorite process through more accurate welding charges (closely matched metallurgy), improved gating and pouring of molten metal and simplified universal tooling. These developments are said to have resulted in a dependable, simple and economical method of welding rail in track under the severest and most diversified conditions. It is pointed out that better technical and delivery service is available to American railroads because Calorite is now produced at St. Jerome, Que., by Alfex, Inc. Sales and full contractural services are handled in the U.S. by *Railweld Division of Holland Co.*

Circle 96 on reader service card

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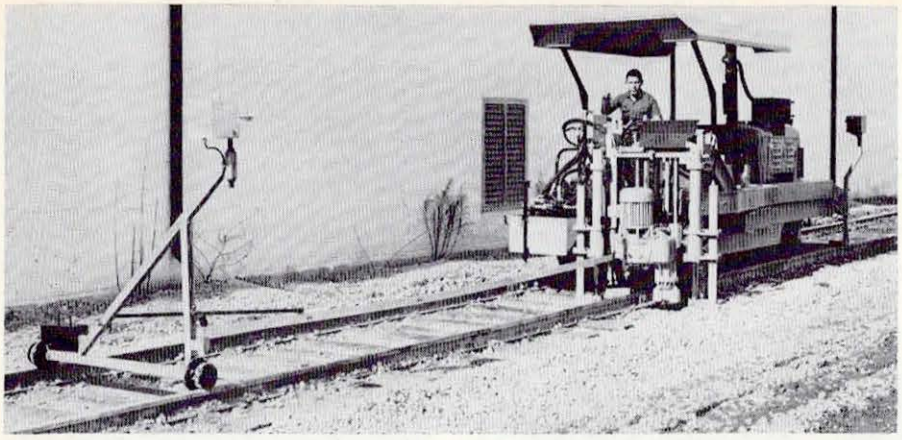
TAMPS JOINTS AND SPOTS

A single-head tamper, designated the JP Tamper, is designed for joint peaking and limited spot surfacing by one-man operation. This is said to be an economical tamper intended primarily to fill the need for joint maintenance without being diverted to other track surfacing, as other

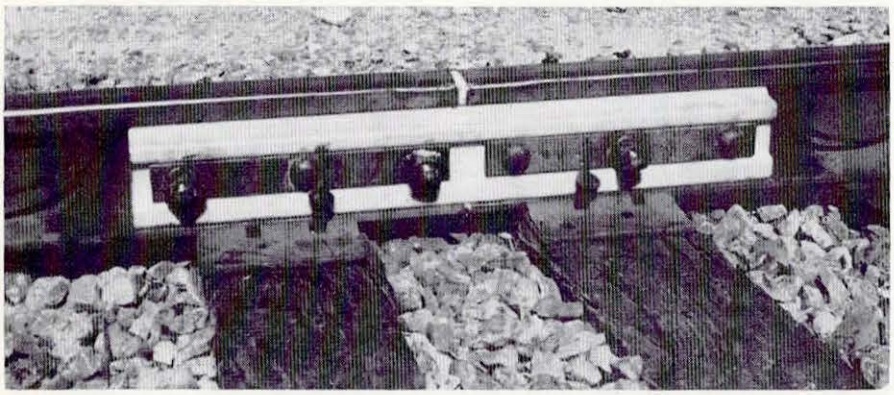


tampers often are, leaving the joint peaking work still to be carried out. After working a few miles on one rail, it is turned and worked on the opposite rail.

The unit employs the Tamper infra-red, light-beam reference system, using a front buggy and tow bar, that is said to result in uniform jacking at each joint. It raises the joint to a predetermined setting and tamps the ties at the joint and either side, depending upon conditions. It has a preset but adjustable cut-off of squeeze pressure to provide uniform compaction, with automatic jacking and automatic downfeed cut-off.

It is powered by a 115-hp GM diesel engine at 1600 rpm, which drives an alternator and hydraulic pump. Propulsion is by fluid drive on the front axle at forward and reverse speeds up to 20 mph. It is equipped with a double-acting hydraulic turntable and jack for changing direction or set off. *Tamper, Inc.*

Circle 97 on reader service card



POLY-INSULATED RAIL JOINT

This is an encapsulated heat-treated and shot-peened steel core which reduces deflection at the joint, therefore minimizing maintenance. The Poly-Insulated Rail Joint is equipped with Portec's Blue Ribbon End Post and Blue Ribbon Bushings. The bushings are replaceable and, under testing severe enough to break the bolts, the joint itself was not damaged nor was the electrical circuitry shorted. They are designed to carry a larger load than the bolt.

The Poly-Insulated Joint has been in service for over three years, according to the manufacturer. It is further stated that no joint of the several thousand now in service has yet been taken from the track because of failure.

In installations where the rail ends meet over a tie plate, the Portec Poly Plate has been introduced. This is a Polyurethane insulated abrasion plate adapted to fit either the 5½-in or 6-in rail base. *Railway Products Division of Portec Inc.*

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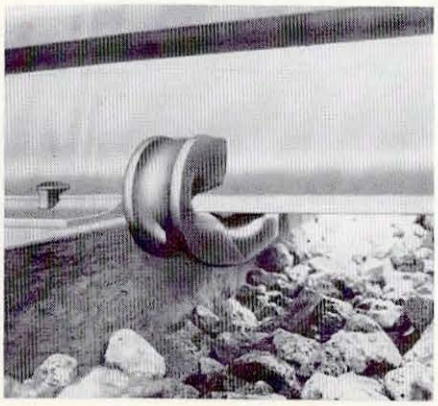

ONE-PIECE RAIL ANCHOR

High gripping strength is claimed for a one-piece rail anchor because of its U-shape cross section which is said to provide double-flange support from end to end.

Other features claimed for this anchor, named "Channeloc," are: Provision of 100% tie bearing; smooth contours for stress distribution to conserve gripping power; wide striking surface for fast and sure application by man or machine; uniform heat-treatment because of uniform thickness of bar stock; and large and flat rail-contact surfaces. *True Temper Corp.*

Circle 99 on reader service card

SELF-PROPELLED CRANE

The Bantam Telekruiser Rail-Roader is a 15-ton, self-propelled crane equipped with a 39-ton push cylinder in the boom, and is complete with pusher plate for straightening loads and the ends of gondola cars.

The Telekruiser's boom is 20 ft long and can be lowered 16 deg below horizontal. It can be retracted to a minimum length of 13 ft 2 in. *Koehring Bantam Crane Div.*

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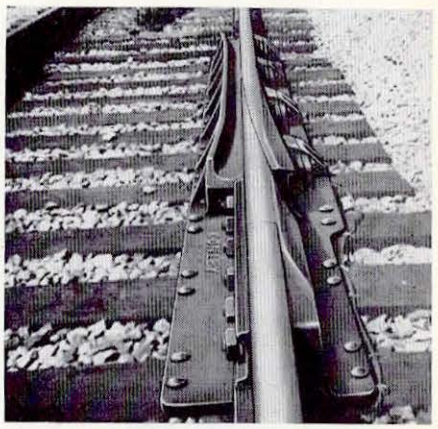

COPING WITH RAIL MOVEMENT

The expansion joint, designated the Sliding Rail, is designed to automatically adjust for rail expansion and contraction and avoid buckling track and joint pull-aparts. A heavy base (approximately 2400 lb) is said to assure a long-lasting solid foundation and is cast integrally of manganese steel with the point, guard rail and rail braces to insure constant track gauge. The wing rail is precurved and heat-treated. *Conley Frog & Switch Co.*

Circle 101 on reader service card

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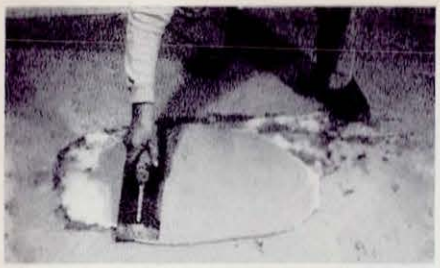
FLOOR PATCHING MATERIAL

A new fast-curing floor-patching material, called Fleet Patch, is recommended for concrete floors under hand trucking and power trucking and is said to be ready for use in 45 min. The manufacturer claims that it sets hard and smooth and sustains



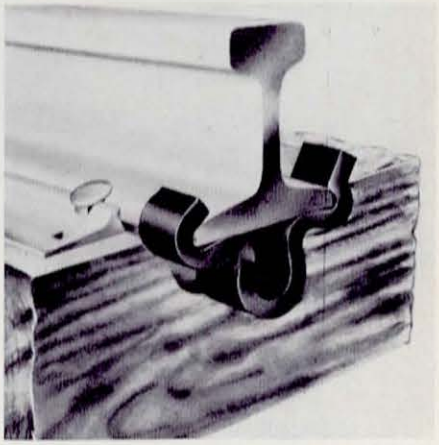
even the heaviest loads at any thickness, even to the feather edges. Fleet Patch is resilient to shock and abrasion due to a special plastic binder. The manufacturer stresses the fact that it may be applied during the normal work day without overtime labor or production loss. It is packaged in a completely proportioned unit for easy mixing and trowelling by plant labor. *Ranco Industrial Products Corp.*

Circle 102 on reader service card

SNOWBLOWER AND LOADER

The Burro Snowblower and Athey Snow Loader are being offered as team units for mounting on a Burro crane for winter use. This combination can be quickly put into service for fast, efficient snow removal, according to the manufacturer. It is also pointed out that the crane can be used with a ¾-cu yd clamshell bucket for snow loading. The Burro Snowblower is shown in the illustration. *Western-Cullen Division, Federal Sign & Signal Corp.*

Circle 103 on reader service card

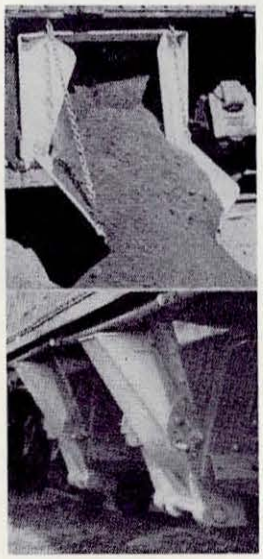


ANCHOR HAS FOUR-POINT GRIP

A one-piece anchor, designated Woodings Advanced-type Rail Anchor, exerts spring pressure on the rail at four points—at the upper corner of the rail base on each side and at two intermediate points on the underside of the rail base. Also, it is pointed out that its lower half-loop shape provides deep tie-bearing area.

The manufacturer states that vertical pressure tests show that this anchor will withstand 50,000-lb pressure without spreading. *Woodings-Verona Tool Works.*

Circle 104 on reader service card



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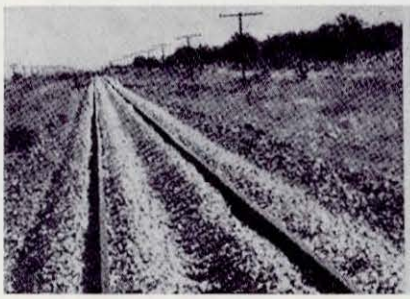

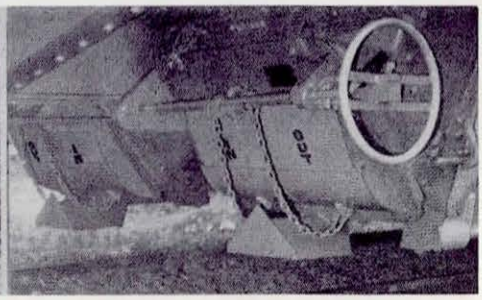

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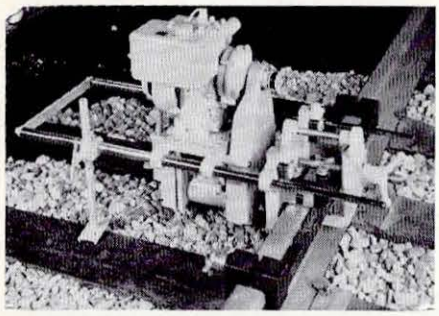
APPLICATOR ALIGNS ITSELF

The new model of the RMC Anchor-Master is said to be faster and more reliable due to a new applying unit which self-aligns itself to the tie being boxed. The rate of application is better than six ties boxed per minute, states the manufacturer, and the machine can be quickly changed from one type of anchor to another. A new push button controlled belt conveyor delivers a supply of anchors to the operator hydraulically. One end of the conveyor is low for easy loading for a man picking up the predistributed sacks of anchors.

The machine requires only one operator to set and apply any brand of rail anchor, spring type or drive-on. The operator hangs two anchors on holding receptacles, presses a button to actuate the mechanism for applying the anchors tightly against both sides of the tie. *Railway Maintenance Corp.*

Circle 105 on reader service card



PRECISION RAIL DRILLING

The new Model "AP" Portable Rail Drill is designed with attachments and fixtures to precision-drill rail in track without using templates or center punching.

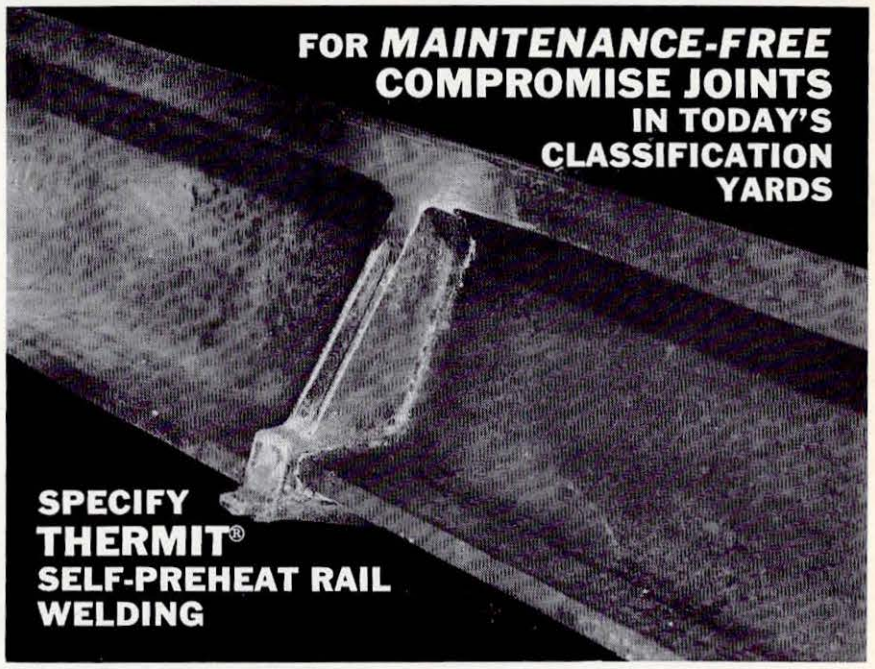
A notched fixture is used to locate the machine to insure precision center-to-center drilling. Solid steel blocks locate the drill vertically. Vee-type clamping to the rail head is said to insure drilling squareness. Automatic feed is claimed to protect the drill bit from wandering and prolongs the life. *Rex-Racine Rail Products Division, Rex Chainbelt Inc.*

Circle 106 on reader service card

TESTER ADJUSTS FOR SWEEP

A new series of compact, solid-state ultrasonic inspection instruments, designated the UM 775 Reflectoscope, has been introduced. Although the Model 775 design is new, the manufacturer states it still accepts the standard Sperry line of pulse/receiver units, thus avoiding their early obsolescence.

A main feature of the UM 775 is the



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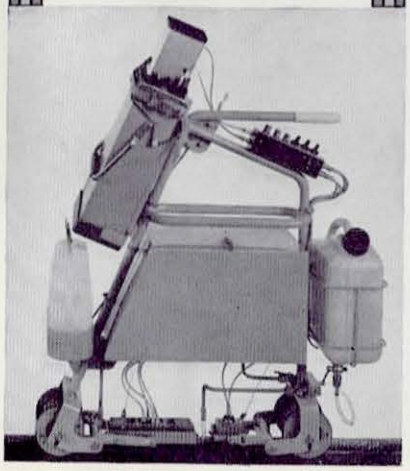

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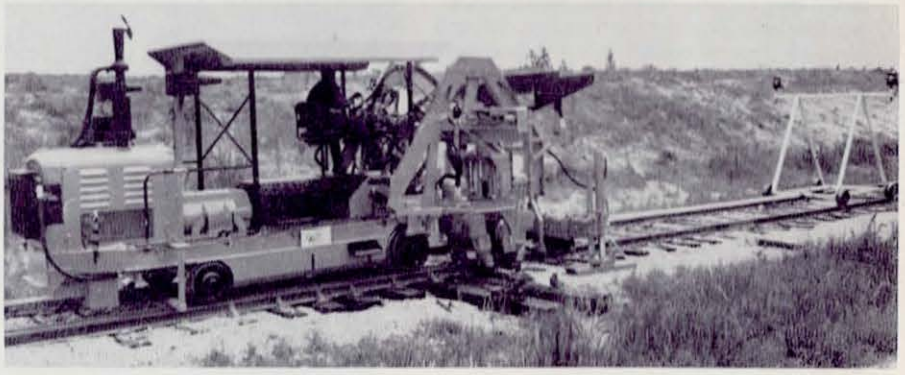
Circle 6 on reader service card

automatic adjustment of pulse rate to compensate for changes in sweep length. The unit is said to operate with wide power-line variations (90-130-volt AC, 50-60 Hz), and 220-volt operation is also available. Its overall size is 21 in by 14 in by 8 in and its weight is approximately 31 lb with pulse/receiver module installed. *Automation Industries, Inc.*

Circle 107 on reader service card



TAMPER WITH FOREMAN

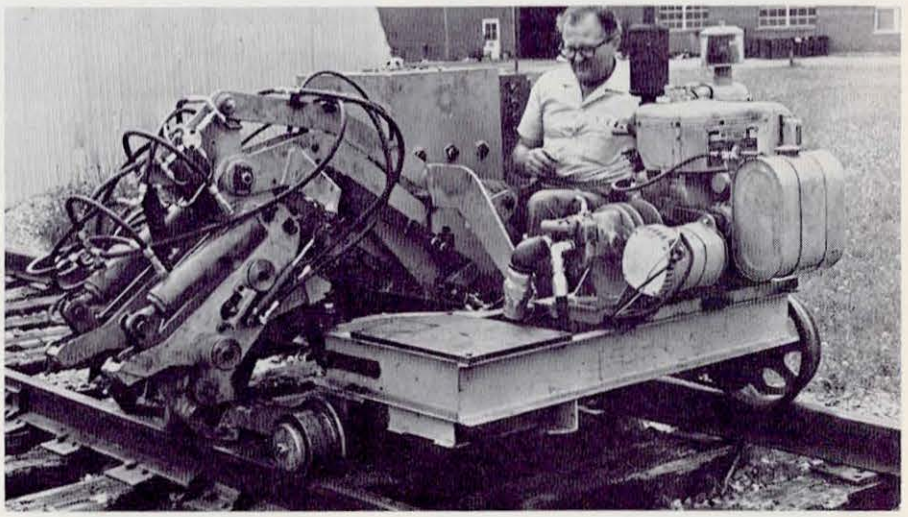
Tamper's Switch Electromatic tamper has been designed to tamp the complete switch, turnout, cross-over or ladder track with 16 tools at production tamper speed and pattern.

Teamed with the Junior Foreman, a surfacing and lining attachment for either the Junior or Switch Electromatic tampers, the Switch Tamper is said to become one of the most versatile and economical medium-production tampers on the market.

With only one operator, this team can tamp, lift, line, spot and joint peak under just about any track condition, it is said.

Incorporated into the attachment is Tamper's infra-red light beam referencing system for surfacing and lining, the same system as used on Autojack Electromatic tampers. *Tamper, Inc.*

Circle 108 on reader service card



CAN APPLY ALL ANCHORS

A machine, designated Jackson's Rail Anchor Applicator, is a one-man operation which includes the feeding of anchors into the applicator jaws with an automatic cycle that removes anchors from the feeding mechanism and installs anchors against the ties. The Applicator applies the proper amount of pressure to install all known types of rail anchors on the market today, it is claimed, and the machine is capable of installing 10 to 12 anchors per minute in a rail-relay operation. The Jackson machine incorporates a unique head application that applies the anchors by exerting pressure against one pair of flanged wheels over the rail where an anchor is being applied. *Jackson Vibrators, Inc.*

Circle 109 on reader service card

HERBICIDE FORMULATION

The manufacturer states that the weed killer "Hyvar" X is a member of the Bromacil family of herbicides which is used by several other formulators.

Some outstanding characteristics claimed for Hyvar X are: it is only negligably effected by sunlight; is not volatile nor will it drift; is highly active and relatively non-selective; requires less moisture for activation than most herbicides; is biodegradable; and is flexible for formulation in dry, wettable or liquid formulations. *E. I. duPont de Nemours & Co.*

Circle 110 on reader service card

(Continued from page 44)

called, fastened to the ties along the center line of track.

Ward explains that this plate, 22 inches high, is half the linear motor. "The windings of the linear motor," he said, "are in the bottom of the vehicle and the aluminum rail is the equivalent of the rotor (or armature) in a conventional rotating electric motor."

Another feature of the LIM research vehicle (LIMRV) that has a bearing on construction of the test track is its design speed. "If our calculations prove correct," Ward said, "the thrust of the motor will get us up to 250 mph. Whether the vehicle can actually operate on the track up to 250 mph remains to be seen."

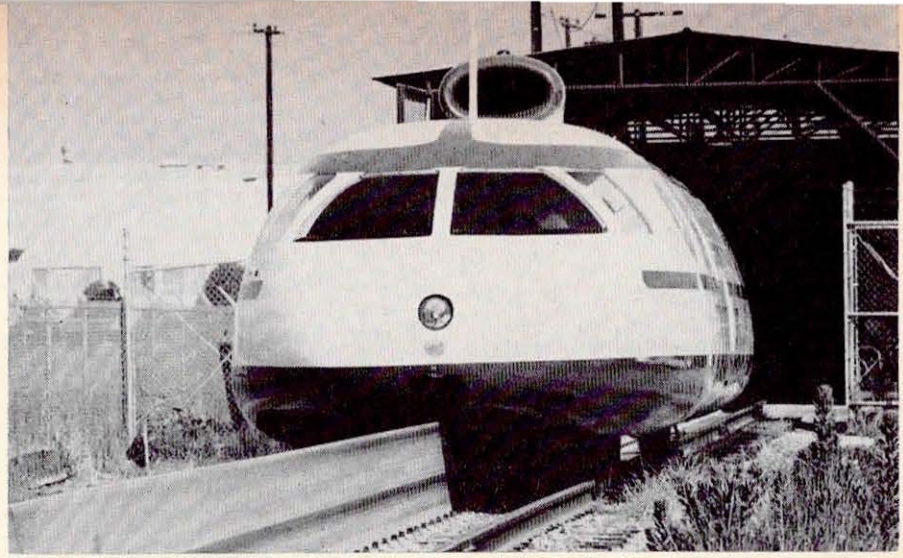
● **Tight tolerances.** As it developed, he was thinking primarily of safety as a limiting factor, and that brings into the picture the tolerances required in the construction of the test track. "Mr. Lawson has specified some very tight tolerances," said Ward. In achieving these tolerances he explained that measurement chords ranging from 10 to 700 feet would be used. "We are talking about tolerances down to 1/32 of an inch in a 10-foot chord and 9/64 in a 700-foot chord," Ward said. To achieve these tolerances, provision has been made to use shims in placing the track on the desired alignment and profile.

Ward explained that the tolerances adopted mean "that we will have to develop some new measuring techniques for the construction and it looks like these might involve use of the laser beam. We may have to do this for the contractor but we don't know yet because, while the grading contract has been awarded, the contract for the track construction has not. The invitations for bids call for a fixed price and then a cost arrangement for getting the final alignment and profile."

Ward was asked if he saw any possibility that speeds requiring such close tolerances would prove practical under actual operating conditions. Replying in the negative, he explained that this was a research project whose primary purpose is to test the LIM up to the maximum speed it can produce. He does not see that such speeds would be practical for commercial application on conventional track. He doubts that it would be possible to hold the close tolerances under such conditions.

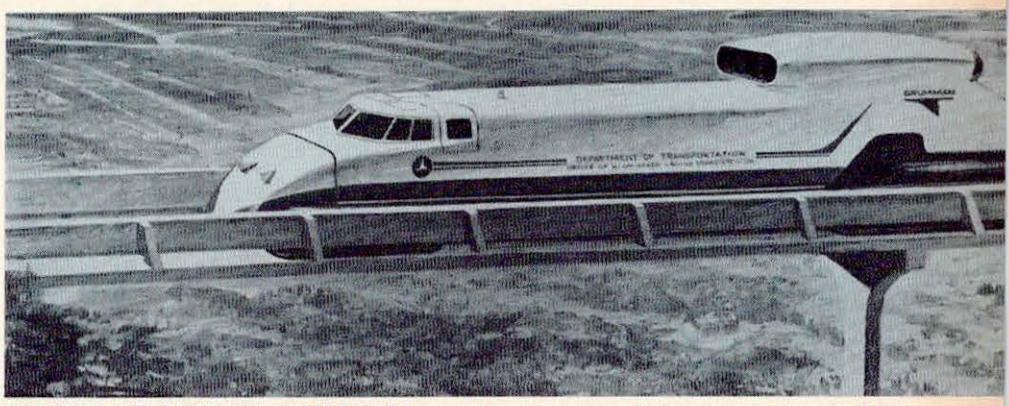
A secondary objective of the LIM project came out in the interview with Ward. "During these tests," he said, "the rail group expects to learn a lot about wheel-rail dynamics and truck performance."

● **21.8-mile oval projected.** The 6.2-mile section of test track will be about half on tangent and half on a curve



LINEAR-MOTOR-POWERED VEHICLE is shown at the builder's plant where it was being tested at slow speeds (up to 30 mph) on a quarter-mile section of track.

CANDIDATES FOR NEW TEST CENTER



TRACKED AIR-CUSHION VEHICLE (shown here in an artist's drawing), will be powered by a linear motor of 8,000 to 10,000 horsepower.

with a radius of 2½ miles. It will be on a parallel alignment with an oval having a total length of 21.8 miles. When the oval is finally closed it will consist of a guideway for testing a TACRV with a much larger LIM than the vehicle that will be tested on the standard track.

"If we find it is necessary to get up to the top speed of the vehicle we may extend the 6.2-mile section," said Ward. "And if we find that LIMRV is a good test-bed vehicle and that we can test other things on it, we may go on to make a complete oval out of the test track."

Ward emphasized that the objective in testing the LIM in a standard-gauge steel-wheel-on-steel-rail vehicle is to develop the linear motor as a power plant for the air-cushioned vehicle. Already a design contract has been awarded to the Grumman Corp. for a TACRV vehicle to be used in testing a much larger LIM than that used in the original test vehicle.

● **A bigger LIM.** "The linear motor to propel the new TACRV," says Ward, "will be an advanced design based on what we've already learned in low-speed tests of the 2,500-hp LIM at the plant of the builder. Garrett Corp. also won the contract for building the second linear motor. This linear motor will incorporate two differences compared with the first one. One is that it will be bigger. Since it will have a thrust of between 8,000 and 10,000 hp it will be over three times as powerful as the first one. Because we want the TACRV to reach speeds of 300 mph, the other difference is that it will be liquid cooled, using techniques developed on electric generators that will help keep the size of the motor down to less than three times the size of the first one."

Ward talked about the objectives of the TACRV project and the development problems connected with it. One objective is to get performance data on the linear motor-air cushion combination. "We'll learn about the aerodynamics problems," said Ward. "The problem of crosswinds at very high speeds is a very severe one. We are going to learn whether we need both primary and secondary suspension systems. The primary one will be the air cushions, but calculations indicate we are going to need a secondary suspen-

(Concluded on page 72)

Watching Washington

REID BEDDOW

TURBOTRAIN TURBULENCE

For a while this month, it looked as if the TurboTrains operating between New York and Boston might cease operation after Oct. 22. This is the date when the contract between DOT—which leases the trains from United Aircraft Corp., who makes and maintains them—and Penn Central, which operates them on a sublease from DOT, expires. No Federal funds for TurboTrain operation have been appropriated after that date.

Though new contract negotiations are proceeding, DOT had been dragging its feet about renewing the contract, not just because of the funding. It wanted Penn Central to lease the trains directly from United Aircraft and operate them, perhaps at a profit. Penn Central, cash poor, balked; and refused to make a commitment until DOT and United Aircraft decided whether to continue TurboTrain operation.

Reportedly, DOT felt the TurboTrain service—one round trip a day, except on Fridays and Saturdays when there are two—was so limited that continuing Federal aid was unjustified. DOT further said its Office of High Speed Ground Transportation had learned all there was to know about the equipment, the whole purpose of the demonstration project.

United Aircraft said it's unhappy because the TurboTrains haven't been allowed to show their full speed because of track limitations. United Aircraft said the three-car TurboTrains have only lopped 40 minutes off the fastest conventional train run, but if grade crossings were eliminated, and speed limits relaxed, they were capable of much faster runs.

Though final resolution of the contract dispute has not been made, Capitol Hill sources said New England Congressional delegations had got wind of the threatened shutdown and had started applying heat to DOT to settle.

As a footnote, these sources further observed that the Boston-New York corridor fracas could be a foretaste of what might happen if Congress starts meddling with the passenger-service plan of the proposed National Railroad Passenger Corporation.

BUY AMERICAN?

Washington, D.C.'s Metro may soon relax its "Buy American" policy. Its board of directors was urged to do so this month by the Metro professional staff. Metro now requires the purchase of American-made supplies and equipment unless foreign goods can be bought for 15% less. The staff wants this requirement dropped to 6%, which they say would adhere to the 6% differential still required in most Federal contracts under the Buy American Act of the 1930's.

Some board members argue that Metro as a regional or state agency is not bound by the Buy American Act. They further point out that the present 15% differential actually means a 25% or 26% handicap, because foreign firms must still pay an 11.5% tariff. Even with a differential reduced to 6%, foreign firms bidding on Metro contracts will still have to overcome what in effect is a 17.5% differential, they claim.

How can a freight car give a softer ride?

Engineering conference ponders running-gear —and other—problems.

By FRED N. HOUSER, Mechanical Editor

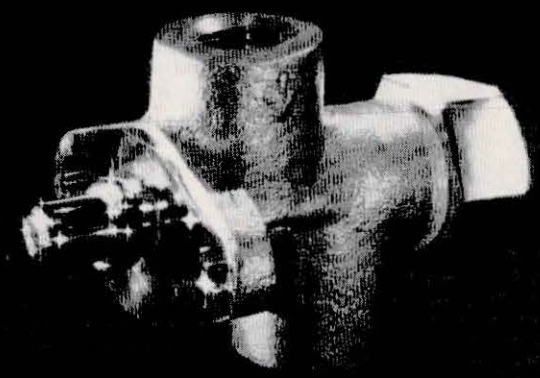
Today's standard freight-car truck has reached a state of maturity from which, apparently, only incremental refinement is possible. That seemed to be the consensus of participants at the seventh annual Railroad Engineering Conference sponsored at Depew, N.Y., by Dresser Industries' Transportation Equipment Division.

Not all the 1970 challenges on railroading are technical—far from it, according to W. Thomas Rice, board chairman of Seaboard Coast Line. He feels that 1970 must mark the real low point in the industry's fortunes and that acceptance of the AAR's ASTRO program offers probably the only way to come back, to interrupt what could be a "domino effect" spreading from the Penn Central bankruptcy. "We are all basking in reflected disgrace," said Rice. He then stressed the need of advancing technology, calling specifically for a new coupler and a new brake system, the second being closely related to the Conference's theme of "The Freight Car Suspension Envelope."

● **The running-gear problem.** As to just what should be done next about freight-car running gear, there was more discussion than conclusion. Dresser, a producer of both conventional and its special XL model car trucks, has a vital stake in the railroad industry's decisions on just what type of ride it needs (and can afford) to remain competitive.

E. V. Hopkins, general mechanical and engineering officer of Pacific Fruit Express, paraphrased critic Ralph Nader, stating that even today's fanciest freight cars give a ride that is "damn rough at any speed." With them, he continued, railroads are incapable of putting delicate Western perishables (such as pears and strawberries) into Eastern markets in salable condition, losing such traffic to competitors.

The culprit? Car suspension, said Hopkins. In over 70 years, he con-



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General Motors locomotives have had engine protective devices which have provided immeasurable protection in severe operating conditions for years. But there were still several conditions that could fool the devices and let the operators permit the engine to continue running.

The new device senses critical oil temperature and triggers a mechanical valve, dumping governor oil pressure to achieve positive engine shutdown, preventing the damage that would follow.

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tinued, there have been only two major suspension advances—the addition of friction snubbers and the introduction of softer springs. With these, however, have come the elimination of lateral motion inherent in the predecessor of the roller bearing, and a poorer alignment of the truck structure as spring planks have been eliminated. There is no other vehicle except the old-fashioned wheelbarrow, said Hopkins, that has its bearings between axle and body, rather than between wheel and axle.

● **More costly but. . . .** He urged that attention be given to a "free wheeling" wheelset (wheels free to rotate with respect to the axle) as a means of allowing trucks to negotiate curves without what he termed "distress." He conceded that a more sophisticated suspension system would be more costly but could well be justified in terms of extended wheel life and reduced lading damage. Railroading, he concluded, needs a "happy" truck that "likes the job it has to do." Hopkins concluded that this situation does not now exist.

R. Byrne, AAR's director of research, likened the maturity of the steam locomotive two decades ago to the current conventional truck, adding that there is little prospect for anything as revolutionary and immediately available as was the diesel locomotive. "Today's modern truck is simply not a modern truck," explained Byrne, stressing the lack of a quality lateral and vertical ride. Fundamental design changes, not "trifling modifications," are needed.

While the AAR does not now have a specification for the complete truck assembly (but only individual ones for many of its parts), the Mechanical Division does have a group working on the truck as a complete system. In the special committee's considerations are factors such as safety, dynamics, design and economics.

Some of the data for defining the ride problem and aiding in its solution are now being finalized.

Byrne pointed out that an AAR report of over 30 years ago had observed that designs had been submitted on "faith" rather than knowledge, since manufacturers then had no fundamental data for design. He indicated that the situation has changed but little right down to the present.

Composite car tested in Canada

Canada's National Steel Car of Hamilton, Ont., has not had the reputation of being one of the swingingest of carbuilders. Its steady production of freight equipment has been marked with a good measure of conventionality and conservatism. But today's NSC management, aided by one-time U.S. railroader Paul F. Giesking, has been participating in a pair of developments which were discussed at Dresser in both 1969 and 1970.

One NSC development is a "composite" car which combines the principal features of a covered hopper car with some of the characteristics of a box car. This project is sponsored by Canada's Department of Industry with the aim of producing a unit with characteristics for a two-way haul. Two 90-ton prototypes are in service—one on Canadian National and one on Canadian Pacific.

Both hoppers are of rectangular configuration with a full-length trough hatch and sectional covers down the center of a fiberglass-reinforced plastic roof. There are 12-foot plug doors in the car sides, each with a relatively small inward-hinged door for grain loading at country elevators. The floor is a permanent grating which will support lift trucks while also allowing free-flowing granular material to pass to conventional discharge gates. The cars already have handled a variety of bulk materials and also box-car ladings such as building materials and palletized commodities.

In cooperation with Canadian Steel Wheel, Canadian Timken, Canadian Westinghouse, Dofasco and Hawker Siddeley Canada, an ore car with wheels free to rotate on the axles has now seen 34,000 miles of service on the rail line of Quebec Cartier Mining Co.

The free-wheeling wheelset under test in Canada consists of conventional roller bearings at the ends of the axle, plus an additional bearing in the hub of one of the wheels. The difference in circumference of inner and outer rails of a full circle of standard-gage track is approximately 31 feet, a variation which can be taken up only partially by the conical treads standard on North American freight cars. Quebec Cartier feels that the corrugation of its rail on curves is probably the result of torsional wheel slip under its long, uniform trains of ore cars. Already the free-wheeling car has been found to require 49% less drawbar pull on a 12-degree curve.

There can be little right with a contemporary truck whose lateral and vertical motions approach its forward travel in magnitude, observed John A. Angold, director of technical research and development for Santa Fe. His road's concern over the unavailability of a running gear suitable for its envisioned role in future freight transport has led to the design of Santa Fe's 125-mph Coaxial Train (RA, Sept. 15/22, 1969, p. 38) for which one full-scale prototype wheel set is soon to be completed and evaluated.

● **One answer: Coaxial Train.** Angold explained that today's sophisticated instrumentation has enabled him to confirm the failure of conventional trucks to remain square and rigid. Such failure means that trucks hunt, producing severe and unstable and vertical actions. These motions are severe enough to cause fatigue failures of vertical posts on Santa Fe auto rack cars; generally, the instability produces undesirable wear of center plates, roller-bearing adapters, wheel flanges and coupler shanks. Today's higher speeds are accelerating all these conditions.

Both Angold and Hopkins indicated that trucks such as Dresser's XL, National's Swing Motion and Rockwell's Express models, give rides appreciably more stable and with reduced flange wear because of the increased lateral designed within the more rigid truck structure. Angold warned that the industry can "no longer afford not to have improved running gear," a step which will require coordinated action and management's willingness to spend more for trucks. Dresser's XL has been available for two decades.

Basic problem is cost

The problem is basically one of cost effectiveness, according to R. W. Carman, Southern's manager of equipment research engineering. While so-called "premium" trucks now cost 50-100% more than standard types, an added cost of $1,000-$1,500 probably could be justified.

● **Computer could help.** Carman urged that the computer be adapted to appraisal of car suspensions, since actual tests are far from consistent. All too frequently, he reported, the development of railroad hardware precedes any analytical method for rational design or testing.

Some of the needed parameters should come from the $6-million car dynamics laboratory of the Federal Railroad Administration near Pueblo, Col. Completion is expected within two years and final designs are being completed by Wylie Laboratories. There are to be huge rotating discs on which a full-scale car or locomotive can be mounted to be subjected to simulated track inputs like those encountered in actual running.

Carbuilders are confronted with the same "data gap" which perplexes component makers and railroads. "The freight car environment is so uncertain and so variable," observed George E. Reed, Amcar director of engineering and research. Because of an absence of exact data, everyone tends to make cars heavier than they need to be. He warned that while improved ride would be produced best by the shortest, lightest and lowest-slung of freight cars, every trend seems now to be in the opposite direction.

Pullman-Standard's Dr. William P. Manos added that the higher and heavier car accentuates the rock-and-roll tendency. Such a car may be fitted with damping devices which serve to improve the loaded ride to the detriment of its operation when empty. Most supplemental devices now applied are effective only at rocking speeds, actually degrading the function of the springs at all other velocities. ■

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Calendar

Based on available information, Railway Age has prepared the following list of organizations giving names and addresses of secretaries and, where available, places and dates of next or regular meetings.

AIR BRAKE ASSOCIATION.—W. T. Jados, 3527 Wisconsin Ave., Berwyn, Ill. 60402. Sept. 13-15, 1971, Sherman House, Chicago.

AMERICAN ASSOCIATION OF BAGGAGE TRAFFIC MANAGERS.—W. B. Paul, Seaboard Coast Line, P.O. Box 1620, Richmond, Va. 23213. May, 1971, New Orleans.

AMERICAN ASSOCIATION OF PASSENGER RATE MEN.—R. F. Domanski, Room 436, Union Station, Chicago, 60606.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—R. C. Buckingham, P.O. Box 1167, Evanston, Ill. 60204.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—Mrs. Ruth Weggeberg, 18154 Harwood Ave., Homewood, Ill. 60430. June 15-17, 1971, Le Chateau Champlain, Montreal.

AMERICAN ASSOCIATION OF RAILROAD TICKET AGENTS.—E. A. Arbagey, 829 Dobson St., Evanston, Ill. 60202. Oct. 19-20, Playboy Club Hotel, Lake Geneva, Wis.

AMERICAN COUNCIL OF RAILROAD WOMEN.—Miss M. E. Perkins, C&O/B&O, One Charles Center-Code 310 Baltimore. 21201. Oct. 16-18, Pheasant Run Hotel, St. Charles, Ill.

AMERICAN RAILROAD TRUCK LINES ASSOCIATION.—W. A. Noll, Missouri Pacific Truck Lines, Inc., 210 N. 13 St., St. Louis, 63103. Nov. 16-18, Thunderbird Motor Inn, Jacksonville, Fla.

AMERICAN RAILWAY BRIDGE & BUILDING ASSOCIATION.—Mrs. Ruth Weggeberg, 18154 Harwood Ave., Homewood, Ill. 60430. Sept. 13-15, 1971, Chicago.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—I. J. Warren, C&O/B&O, 2012 One Charles Center, Baltimore, 21201. Apr. 25-28, 1971, Stouffer's Riverfront Inn, St. Louis.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division—E. W. Hodgkins, Exec. Manager, 59 E. Van Buren St., Chicago, 60605. Mar. 15-17, 1971, Sherman House, Chicago.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—J. R. Morrell, 2000 Massachusetts Ave., N.W. Washington, D.C., 20036.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—O. B. Schier II, 345 E. 47th St., New York, 10017. Nov. 29-Dec. 3, New York Hilton Hotel, New York.

RAILROAD DIVISION.—M. A. Hanson, Magnus Metal Div., National Lead Co., 2234 West 43rd St., Chicago, 60609. Joint Conference with IEEE Land Transportation Comm. Apr. 19-21, 1971, Statler-Hilton Hotel, New York.

AMERICAN TRANSIT ASSOCIATION.—Robert Sloan, Exec. Vice-Pres., 815 Connecticut Ave., N.W., Washington, D.C. 20006.

ASSOCIATION OF AMERICAN RAILROAD DINING CAR OFFICERS.—P. E. Kenney, Penn Central, Sunnyside Yards, Long Island City, N.Y. 11101. Oct. 19-22, Royal Sonesta Hotel, New Orleans.

ASSOCIATION OF AMERICAN RAILROADS:
Washington, D.C. 20036—American Railroads Bldg., 1920 L St., N.W.
Chicago, Ill. 60605—59 East Van Buren St.
R. E. Keefer, Exec. Asst. to Pres., and Secy.-Treas., Washington, D.C.
Operating-Transportation Division.—C. A. Lauby, Exec. Vice-Chairman, Washington, D.C. W. E. Todd, Staff Secy., Washington, D.C.
Communication and Signal Section.—P. D. Bonin, Washington, D.C. Oct. 5-7, 1971, Americana Hotel, Bal Harbour, Fla.
Safety Section.—W. E. Todd Staff Secy. June 20-23, 1971, Le Chateau Champlain, Montreal.
Engineering Division.—E. W. Hodgkins, Exec. Vice-Chairman, Chicago. Mar. 15-17, 1971, Sherman House, Chicago.
Mechanical Division.—C. L. Davidson, Chicago, June 23-24, 1971, Sheraton Chicago Hotel, Chicago.
Freight Claim Division.—J. C. Hindman, Chicago. May 11-13, 1971, Hotel Sonesota, Houston.
Data Systems Division.—V. G. Rymarowicz, Washington, D.C. Sept. 20-22, 1971, Roosevelt Hotel, New Orleans.
Accounting Division.—Philip A. Lyon, Washington, D.C. Oct. 25-27, 1971, Boca Raton Hotel & Club, Boca Raton, Fla.
Treasury Division.—Philip A. Lyon, Washington, D.C. Oct. 18-20, 1971, Boca Raton Hotel & Club, Boca Raton, Fla.

ASSOCIATION OF INTERSTATE COMMERCE COMMISSION PRACTITIONERS.—Mrs. Norma L. Iser, Exec. Secy., 1112 ICC Bldg., Washington, D.C. 20423. June 23-25, 1971, Sheraton Park Hotel, Washington, D.C.

ASSOCIATION OF RAILROAD ADVERTISING MANAGERS.—J. D. Singer, Exec. Secy., Chesapeake & Ohio, 3800 Terminal Tower, Cleveland, 44101.

ASSOCIATION OF RAILROAD EDITORS.—A. C. Hanson, Duluth, Missabe & Iron Range, 500 Missabe Bldg., Duluth, Minn. 55802. Sept. 30-Oct. 2, Le Chateau Champlain, Montreal.

CANADIAN INDUSTRIAL TRAFFIC LEAGUE.—A. A. Landry, Exec. Vice-Pres., 20 Bloor St., West, Toronto 189 Ont. Feb. 23-25, 1971, Queen Elizabeth Hotel, Montreal.

CANADIAN RAILWAY CLUB.—W. J. Cadogan, P.O. Box 162, Montreal 101, Que. Regular meetings, second Monday of each month except Feb., June, July, Aug. and Oct. Oct. meeting on first Monday, Queen Elizabeth Hotel, Montreal.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS.—E. S. Schloessman, 103 Cherokee St., St. Louis 63118. Regular meetings, third Tuesday of each month except June, July and Aug. Elk's Club, 2000 Market, St. Louis.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—E. W. Gebhardt, 297 Highland Ave., Elmhurst, Ill. 60126. Sept. 13-15, 1971, Sherman House, Chicago.

CAR FOREMAN'S ASSOCIATION OF OMAHA, COUNCIL BLUFFS AND SOUTH OMAHA INTERCHANGE.—C. G. Poetzel, 2111 Avenue I, Council Bluffs, Ia. 51501. Regular meetings, second Tuesday of each month

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CAR FOREMEN'S ASSOCIATION OF CHICAGO.—J. J. Sacheck, 4841 North Nagle Ave., Chicago, 60630. Regular meetings, second Monday of each month except June, July, Aug. and Oct., LaSalle Hotel.

CENTRAL RAILWAY CLUB OF BUFFALO.—M. A. Redding, Exec. Secy., 214 Kenmore Ave., Buffalo, 14223. Regular meetings, second Thursday of each month except May, June, July and Aug., Cordon Bleu.

CHICAGO RAILROAD DIESEL CLUB.—E. C. Fosdick, 225 Illinois Blvd., Hoffman Estates, Ill. 60172. Regular meetings, first Monday of each month except July, Aug. and Sept., Hartford Bldg., 365 West Monroe St., 5:30 p.m.

CHICAGO RAILROADS CAR ACCOUNTING OFFICERS ASSOCIATION.—K. H. Lyrla, Jr. (Chairman) Illinois Central, 6327 S. Dorchester Ave., Chicago, 60637. Regular meetings, last Wednesday of each month except July and Aug., Traffic Club, Palmer House, 12 noon.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—T. F. Schackel, 149 Fawn Lane, Haverford, Pa. 19041. Nov. 11-13, Hilton Hotel, St. Paul.

EASTERN CAR FOREMAN'S ASSOCIATION.—J. D. O'Brien, 18 Parkerson Rd., Edison, N.J. 08817. Regular meetings, third Tuesday of Jan., Feb., Mar., Apr., May, Oct. and Nov. McAnn's Restaurant, 465 Lexington Ave., New York.

GREAT LAKES RAILWAY CLUB.—R. J. Heller, 577 E. 152nd St., Cleveland, 44110. Regular meetings second Wednesday of Sept., Nov., Jan., Mar. and May, Pick-Carter Hotel, Cleveland. Social hour 6:30 p.m., dinner 7:30.

INSTITUTE FOR RAPID TRANSIT.—R. M. Coultas, Exec. Vice-Pres., 1612 K St., N.W., Washington, D.C. 20006. June 9-11, 1971, Camino Real Hotel, Mexico City.

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS.—Donald G. Fink, Gen. Mgr., 345 E. 47th St., New York 10017. Mar. 22-25, 1971, New York Hilton Hotel, New York. Exhibit at Coliseum.

COMMITTEE ON LAND TRANSPORTATION.—Robert B. Morris (Chairman), Westinghouse Air Brake Div., WABCO, Wilmerding, Pa. 15148. Joint conference with ASME Railroad Division, Apr. 19-21, 1971, Statler-Hilton Hotel, New York.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—C. M. Lipscomb, 1721 Parker St., North Little Rock, Ark. 72114. Sept. 13-15, 1971, Sherman House, Chicago.

MAINTENANCE OF WAY CLUB OF CHICAGO.—J. S. Kopec, Chicago, Milwaukee, St. Paul & Pacific, Room 898, Union Station, Chicago 60606. Regular meetings, Oct.-Apr., Midland Hotel.

METROPOLITAN RAILWAY CLUB OF NEW YORK.—Fred Osthoff, Railway Age, 30 Church St., New York, 10007. Oct. 15, Engineers' Club, Philadelphia; Nov. 2 and Dec. 3 (luncheon) Penn Garden Hotel, New York.

MILITARY RAILWAY SERVICE VETERANS.—R. E. Godley, P.O. Box 1285, Vicksburg, Miss. 39180.

MISSISSIPPI VALLEY MAINTENANCE OF WAY CLUB.—J. B. Reynolds, Missouri Pacific, Room 1200 Missouri Pacific Bldg., St. Louis, 63103. Regular meetings, second Monday of each month, Sept. through May, Louis IX Room, Harvey's Restaurant, Union Station, St. Louis.

NATIONAL ASSOCIATION OF RAILWAY TAX COMMISSIONERS.—D. L. Cothern, Room 305, 135 E. 11th Place, Chicago 60605. Nov. 17-18, Sheraton Ritz, Minneapolis.

NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS.—Everette Kreeger, ICC Bldg., P.O. Box 684, Washington, D.C. 20044. Nov. 16-19, International Hotel, Las Vegas.

NATIONAL ASSOCIATION OF SHIPPERS' ADVISORY BOARDS.—P. W. Gosling, F. W. Woolworth Co., 3316 W. 66th St., Edina, Minn. 55435. Apr. 28-30, 1971, Portland Hilton Hotel, Portland, Ore.

NATIONAL DEFENSE TRANSPORTATION ASSOCIATION.—Helen J. Amidon, 1612 K St., N.W. Washington, D.C. 20006.

NATIONAL INDUSTRIAL TRAFFIC LEAGUE.—L. J. Dorr, Exec. Vice-pres., Suite 909, 711 14th St., N.W. Washington, D.C. 20005. Nov. 18-20, Palmer House, Chicago.

NATIONAL RAILROAD LUBRICATION COUNCIL.—Herman C. Brandt, 2824 McCully Rd., Allison Park, Pa. 15101.

NATIONAL RAILROAD PIGGYBACK ASSOCIATION.—G. L. Corley, Jr., Chicago & Eastern Illinois, 140 S. Dearborn St., Chicago 60603. Next meeting, Oct. 8-9, Executive Inn, Louisville. Annual meeting, Jan. 20-21, 1971, Hilton Inn, San Diego.

NATIONAL SAFETY COUNCIL.—F. J. Parker, Staff Representative, 425 N. Michigan Ave., Chicago, 60611. Railroad Section annual meeting, Oct. 27-29, La Salle Hotel, Chicago, during National Safety Congress.

NEW ENGLAND RAILROAD CLUB.—Wm. M. McCombs, P.O. Box 198-A, Pembroke, Mass. 02359. Regular meetings second Tuesday in Jan. Mar., May and Nov. Sheraton-Plaza Hotel, Boston. Dinner 6:30 p.m. Annual meeting, election, banquet and entertainment second Thursday in May.

NEW YORK RAILROAD CLUB.—F. R. McCarthy, Exec. Secy., 466 Lexington Ave., New York, 10017. Oct. 8 meeting, Hotel Sheraton, Philadelphia. Annual meeting and dinner, Dec. 3, Grand Ballroom, Hotel Commodore.

NORTHWEST CARMEN'S ASSOCIATION.—N. J. Maglich, Minnesota Transfer Ry., 503 N. Cleveland Ave., St. Paul, 55114. Regular meetings, first Monday of each month except June, July and Aug., Y.M.C.A., Midway Branch, 1761 University Ave., St. Paul.

NORTHWEST MAINTENANCE OF WAY CLUB.—E. L. Roland, 2 Milwaukee Station, Minneapolis 55401. Regular meetings third Thursday of each month, Oct. through Mar., Prom Center-Arizona Room, 1190 University Ave., St. Paul. Social hour 5:50 p.m.; dinner, 6:30.

PACIFIC RAILWAY CLUB.—K. J. MacGregor, Southern Pacific, One Market St., San Francisco, 94105. Meetings in alternate months in San Fran-

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cisco and Los Angeles. One meeting a year in Sacramento area.

PIGGYBACK ASSOCIATION OF CHICAGO.—W. C. Anspach, Chesapeake & Ohio, 327 S. LaSalle St., Chicago, 60604. Regular meetings, first Monday of each month, Traffic Club, Palmer House, Chicago.

RAILROAD INSURANCE MANAGEMENT ASSOCIATION.—R. H. Smith, 400 W. Madison St., Chicago 60606. Nov. 18-19, La Salle Hotel, Chicago.

RAILROAD JOINT FACILITY CLUB OF CHICAGO.—R. M. Grafstrom, P.O. Box 880, Joliet, Ill. 60434. Regular meetings, first Monday of each month except July, Aug. and Sept., Traffic Club, Palmer House, Chicago.

RAILROAD PERSONNEL ASSOCIATION.— J. L. Quarles, Jr. (President) C&O/B&O, 2 No. Charles St., Baltimore, 21201. Oct. 6-9, Key Biscayne Hotel, Miami.

RAILROAD PUBLIC RELATIONS ASSOCIATION.—J. N. Ragsdale, Association of American Railroads, American Railroads Bldg., Washington, D. C. 20036.

RAILWAY AUTOMOTIVE MANAGEMENT ASSOCIATION.—R. G. Vick, Chicago, Rock Island & Pacific, 745 S. La Salle St., Chicago, 60605.

RAILWAY CLUB OF PITTSBURGH.—G. E. Morrison 2710 Koppers Bldg., Pittsburgh, 15219. Regular meetings third Thursday of each month except June, July, Aug., Sept. and Dec. Wm. Penn Hotel, Dinner, 6:30 p.m.; meeting, 7:30.

RAILWAY ENGINEERING-MAINTENANCE SUPPLIERS ASSOCIATION.—L. D. McGuan, Exec. Secy., 332 S. Michigan Ave., Chicago 60604.

RAILWAY FUEL AND OPERATING OFFICERS' ASSOCIATION.—L. H. Peters, 10414 S. Wood St., Chicago 60643. Sept. 13-15, 1971, Sherman House, Chicago.

RAILWAY PROGRESS INSTITUTE.—N. A. Lennartson, Pres., 1140 Connecticut Ave., N.W. Washington, D.C. 20036. Annual dinner and meeting, Nov. 5, New York Hilton Hotel, New York.

RAILWAY SIGNAL AND COMMUNICATIONS SUPPLIERS' ASSOCIATION.—F. Aikman, Jr., Exec. Dir. & Secy., Statler Hilton Hotel, 401 Seventh Ave., Second Office Floor, Room 62, New York, N.Y. 10001. Exhibit, Oct. 5-7, 1971, Americana Hotel, Bal Harbour, Fla.

RAILWAY SUPPLY ASSOCIATION.—Albert Schiffers, Jr., Exec. Secy., 332 S. Michigan Ave., Chicago 60604.

RAILWAY SYSTEMS AND MANAGEMENT ASSOCIATION.—G. C. Vietsch, Pres., 163 E. Walton St., Chicago, 60611

RAILWAY TIE ASSOCIATION.—W. D. Labaugh, Room 307, 5 Colt St., Paterson, N.J. 07501. Oct. 21-23, Royal Sonesta Hotel, New Orleans.

ROADMASTERS AND MAINTENANCE OF WAY ASSOCIATION, Mrs. Ruth Weggeberg, 18154 Harwood Ave., Homewood, Ill. 60430. Sept. 13-15, 1971, Chicago.

ST. LOUIS RAILROAD DIESEL CLUB.—F. C. Whitlock, 6207 W. Washington, Belleville, Ill. 62223. Regular meetings, first Monday in Feb., Apr., May and Oct. Elks' Club, 20th & Market Sts., St. Louis.

SOUTHERN & SOUTHWESTERN RAILWAY CLUB.—J. S. Mastrangelo, P.O. Box 1744, Roanoke, Va. 24008. Regular meetings, third Thursday, in Jan., Apr., June and Oct.

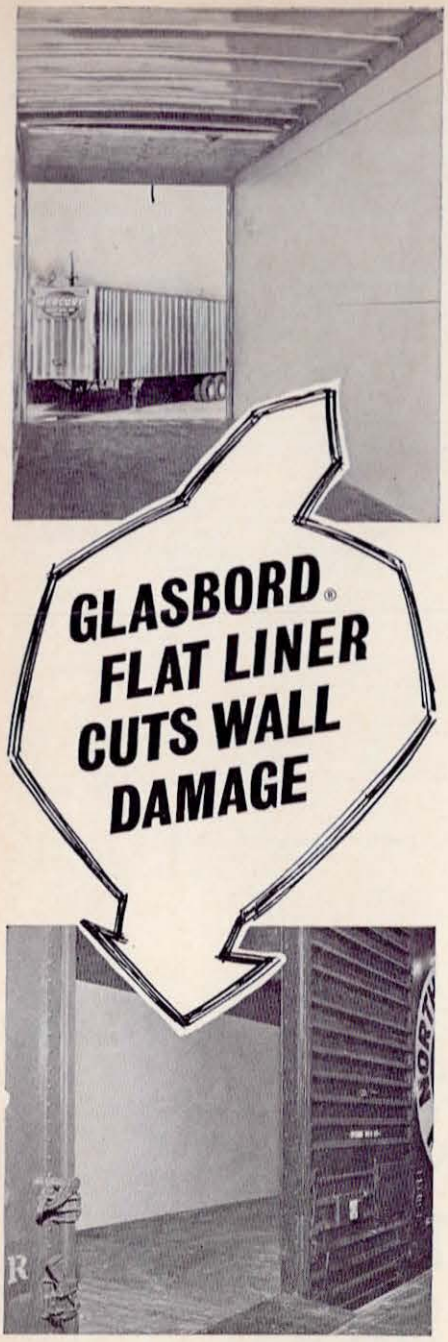
SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—F. I. Umhau, 1796 Meadowdale Ave., N.E., Atlanta, 30306. Jan. 27-28, 1971, Monteleone Hotel, New Orleans.

SOUTHWESTERN RAILWAY CLUB.—P. T. Schwarz, 6671 Myrtle St., Houston, 77017. Regular meetings, fourth Thursday in Jan. at Houston; Apr. at Little Rock, Ark.; Oct. at Ft. Worth.

TORONTO RAILWAY CLUB.—W. F. Saunders, P.O. Box 8, Terminal "A", Toronto 1, Ont. Regular meetings, fourth Monday of each month except June, July, Aug., Royal York Hotel. Annual dinner, first Saturday in December.

TRAFFIC CLUBS INTERNATIONAL.—C.T. Harper, Exec. Dir., One East Wacker Drive, Chicago. 60601.

WESTERN RAILWAY CLUB.—Suite 339, Sherman House, 60601. Regular meetings in Oct., Nov., Mar., Apr. and May. Special ladies meeting in Feb.



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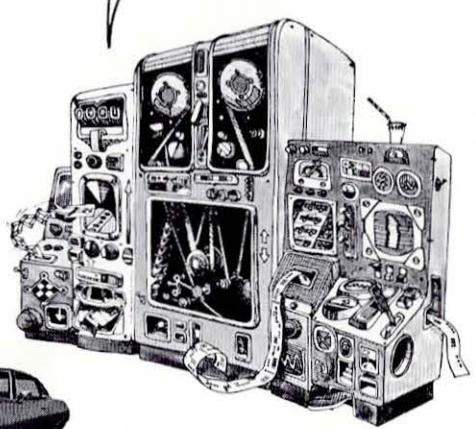

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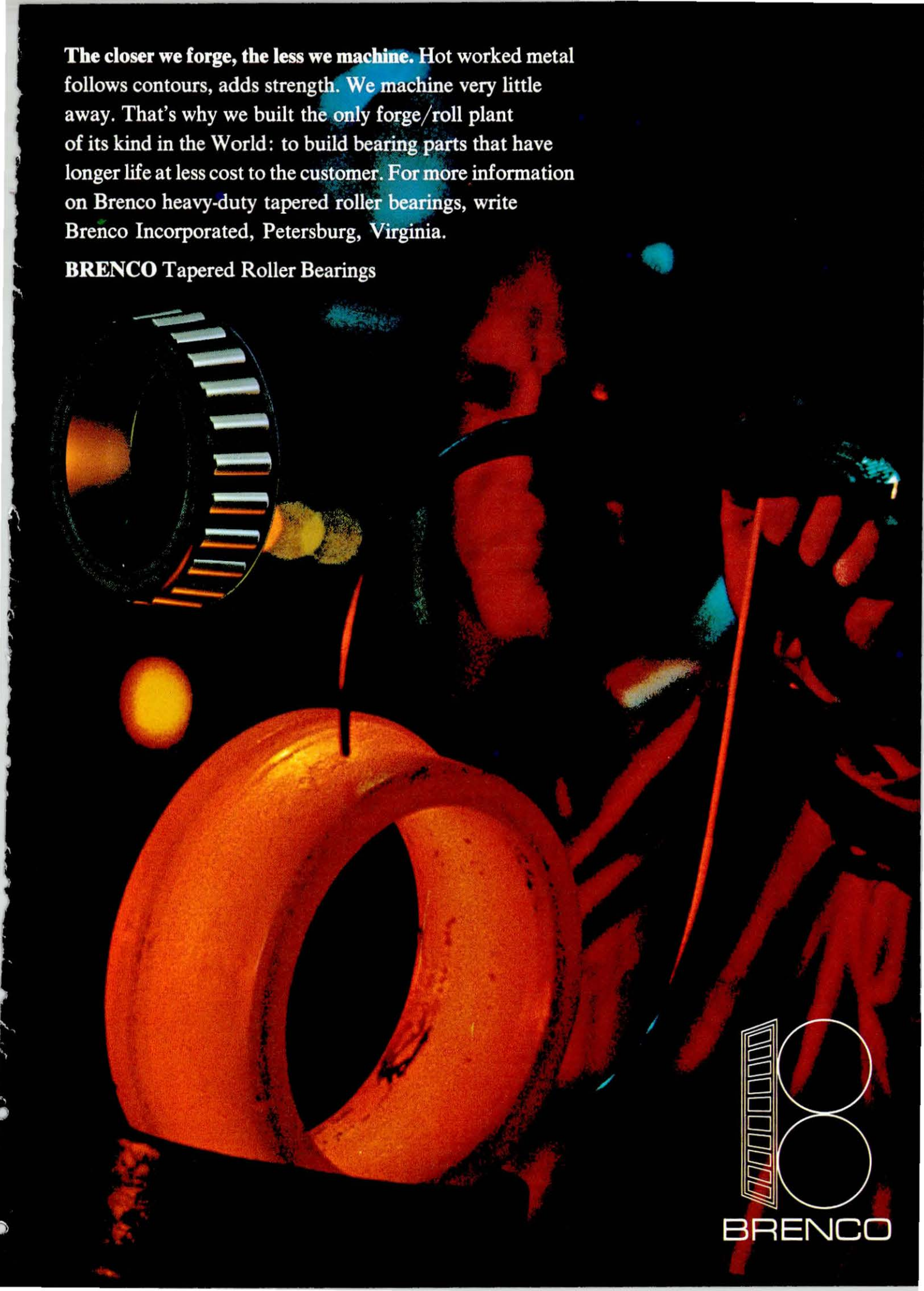

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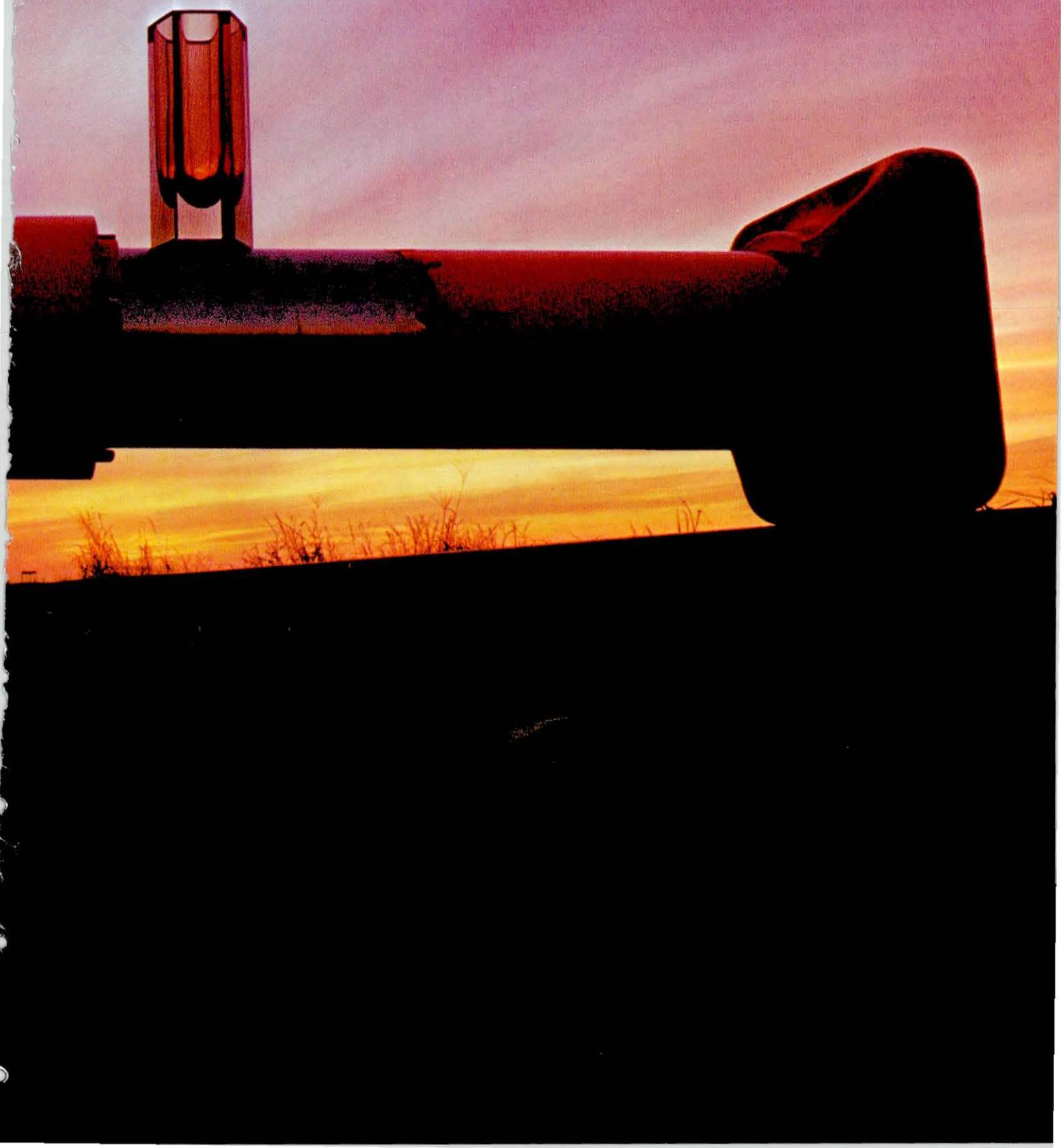

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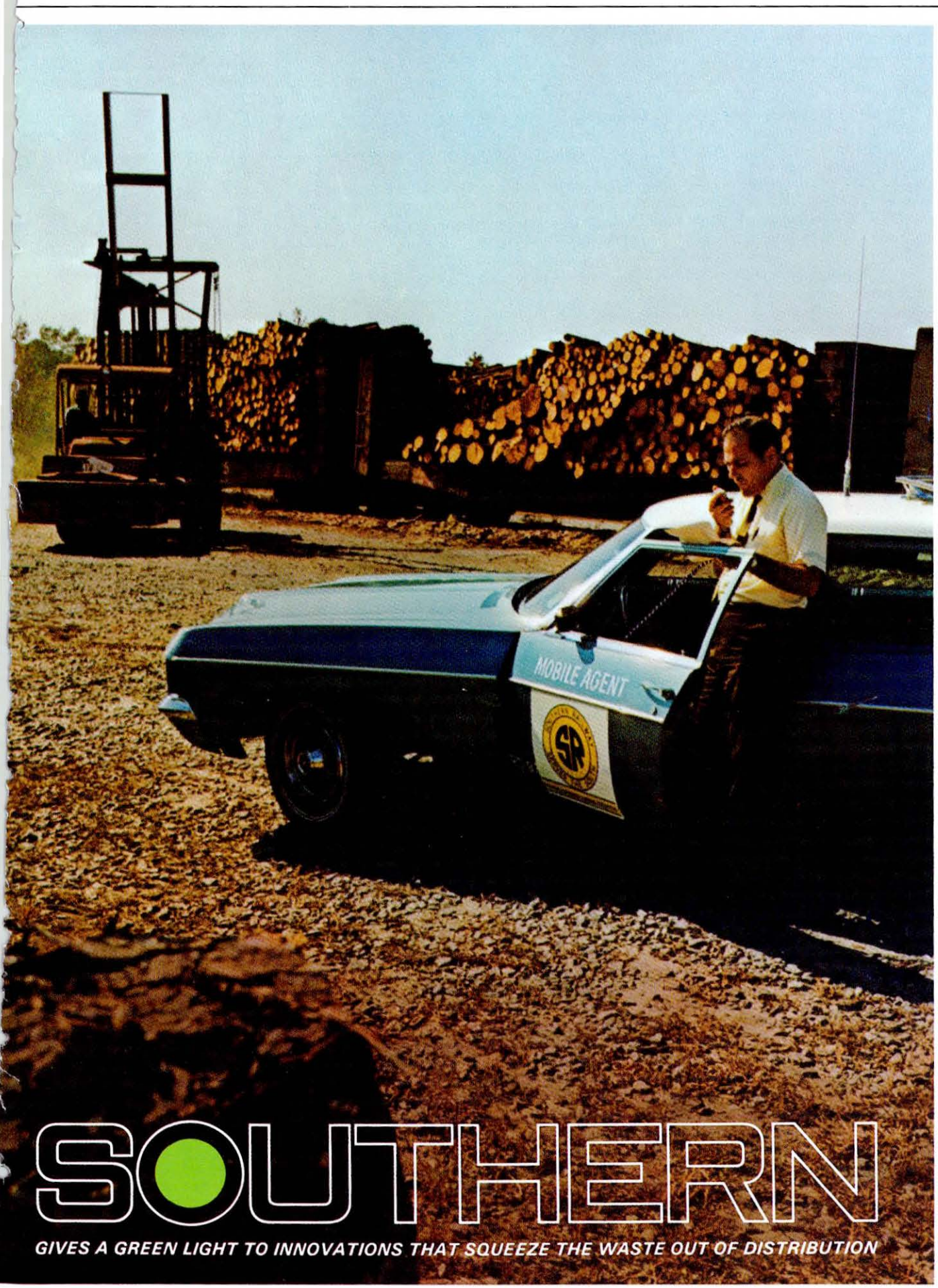

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Are shipper boards worth preserving?

Yes, say a majority of shippers. And in the absence of AAR financial support, they are willing to foot the bill.

A silver lining is beginning to show up in the cloud that has hung over the 13 Regional Shippers Advisory Boards since the AAR announced that it was withdrawiing most of its financial support (RA, Aug. 31, p. 11).

Initially, the AAR's action seemed to threaten the very existence of the shipper groups, which have for years provided a forum for regular meetings of railroad men with their customers.

It now appears, however, that the boards will not only continue to function (though there will probably be fewer of them)—but that they may actually be more effective than ever as the shipper members assume the total responsibility.

RAILWAY AGE, in its September Traffic Poll, asked a representative sampling of the country's leading shippers whether they felt the boards served a useful purpose—and if so, if they were willing to help pay for continued operation. (Shippers in the past have paid no dues; the AAR has met most of the costs.)

Of 116 shippers who participated in the RAILWAY AGE poll, 101 said they were presently members of their regional boards. Sixty-nine felt the boards were worth preserving. And 66 said they were willing to help pay the bill, in the form of either annual dues or meeting-registration fees.

In view of the fact that many of the present members of the boards actually participate very little in the meetings—"deadwood" is a recurring description of them in the comments of those shippers who are active participants—the results of the Railway Age Poll may be viewed as a resounding vote of confidence in the value of the boards to the railroads' customers.

● **Why they matter.** A number of shippers volunteered ringing testimonials as to the boards' effectiveness.

Said D. J. Russell, director of transportation for the Minneapolis Grain Exchange: "Through the Car Efficiency Committee of the Northwest Board, this office receives weekly reports enabling us to spot any unusual accumulations of cars held for unloading by individual receivers of grain in the Northwest. By calling the matter to the attention of top management, we are normally able to get the problem corrected quickly on a voluntary basis."

Paul A. Smith, traffic manager of John W. Eshelman & Sons, Lancaster, Pa., asserted: "I am of the conviction that the intermediary role which our board plays between carriers and shippers is invaluable. If it were to go, I feel certain that it would only be a matter of time until both parties found this to be regrettable."

"I do believe that the local Shippers Advisory Boards, with shipper participation, have assisted in the movement of box cars and the care and upkeep of these particular cars as well as other problems that affect local areas," affirmed Henry M. Karel, director of distribution for Cleo Wrap Corp., Memphis, Tenn.

R. H. Heilman, director of transportation and distribution for A. O. Smith Corp., Milwaukee, also found that the boards provide an irreplaceable "medium of communication between railroad operating men and shippers." (Like several other shippers, Heilman proposed that the boards as they may now be constituted accept railroad men as full members rather than as just observers.)

● **Merging the boards.** Nearly all of those who want the boards continued feel that there should be fewer of them.

"Let's reduce the number of boards and create effective ones by merger," proposed R. P. Petkanics, division traffic manager for Kraft Foods, New York. He noted that railroads are "no longer geographically confined to their regions," and suggested that a proliferation of regional boards only created unnecessary duplication.

Earl W. Beck, manager of traffic and distribution for Whitehead & Kales, and currently president of the Great Lakes Board, said merger of the Great Lakes, Ohio Valley and Allegheny Boards was already under consideration. "I feel that the regional and national boards must continue; with the support of the railroads, many transportation problems can be solved for both shippers and carriers."

Among other merger advocates were H. B. Phillips, manager of railway operations for Phillips Petroleum Co., Bartlesville, Okla.; J. E. Phelan, general traffic manager of Anheuser Busch, Inc., St. Louis; Norman B. Towne, general traffic manager of J. R. Simplot, Boise, Idaho; C. J. Kraus, manager of traffic for Allis Chalmers, West Allis, Wis.; John A. Faller, general director of purchasing and traffic for Libbey-Owens-Ford, Toledo; and Hubert L. Bass, general traffic manager, MFC Services, Jackson, Miss. Bass expressed a feeling that seemed to be shared by many of those polled by Railway Age when he declared: "There may have to be fewer boards, but I feel this may bring us closer as a fraternity."

● **Paying the bill.** Most shippers appear to be willing to pay annual dues in the $5-$10 range to keep the boards going. Some prefer no dues but meeting registration fees. Others propose a combination of the two.

Miles T. Tamisiea, general traffic manager, Hamm Brewing Co., St. Paul, was among several who suggested

SEPTEMBER TRAFFIC POLL

1. Are you a member of one of the 13 Regional Shippers Advisory Boards?
   Yes. . .101 No. . .15

2. Do you feel that these boards serve a useful purpose?
   Yes. . .69 No. . .42

3. So that these boards may be able to continue to function, in the absence of AAR financial support, are you prepared to pay nominal dues (e.g., in the range of $5-$10 a year)?
   Yes. . .67 No. . .41

4. In your view, will the AAR's withdrawal of support have the ultimate effect of:
   Weakening the effectiveness of the boards? 44
   Strengthening their effectiveness (through increased direct participation by shipper members)? 45

5. What proposals do you have for strengthening the effectiveness of the boards? (See text)

Note: All respondents did not reply to all questions.

A. K. Penttila

One big "yes" vote for shipper boards

Allen K. Penttila, director of traffic and transportation for the Evans Products Co., Des Plaines, Ill., is one shipper who thinks that the Regional Shippers Advisory Boards will not only survive the loss of AAR financial support, but may eventually be stronger because of it. And what Penttila thinks is important because, as president of the National Association of Shippers Advisory Boards, he will play a key role in the direction NASAB and its constituent boards take.

"All of this may end up as a blessing in disguise," Penttila told Railway Age in an interview.

He noted that some time ago, NASAB had named a committee to study consolidation—and that three boards had already agreed, in principle, to merge into one.

By reducing the number of boards, said Penttila, it is hoped that more active participation on the part of high-level railroad men can be encouraged. In numbers, he noted, railroad participation in meetings of the boards has continued high. "But it has been steadily declining in the stature of the people attending."

Penttila said his own soundings bore out the findings of Railway Age's Traffic Poll that most shippers would be willing to pay a dues assessment to keep the regional boards going. Three boards have already approved a dues schedule. (The national board, he noted, will continue to get AAR support.)

NASAB officers will meet with regional leaders in Penttila's office Oct. 5 to plot a course for both the national and regional organizations.

that assessment of dues will in the long run be a healthy thing since it may help to give shippers a feeling of greater responsibility for the conduct of the boards' affairs.

F. R. Kenfield, manager of transportation for the Houston (Tex.) Chamber of Commerce, preferred registration fees, adding: "A self-sustaining, pay-as-you-go board will eliminate deadwood, streamline formats, and give members a right to obtain better accountability from railroad officials on long-neglected problems."

William P. Bolt, traffic manager of Agway, Inc., Feed Division, Buffalo, N. Y., expressed the hope that "with the elimination of railroad involvement in the conduct of affairs, shippers will be more constructive in their approaches rather than using the board meetings as 'gripe' sessions."

Doubtless, the present rosters of the shipper boards will be drastically pared down (membership is now around 20,000) as the boards become self-supporting. But Erwin Rosenzweig, traffic manager of Longview Fibre Co., Longview, Wash., believes the boards "can become stronger by reducing membership to active members. Why have 800 to 1,000 inactive members to mail notices and proceedings to? I believe 200 in our board could be active along with the operating officers and other personnel of the carriers for more effective meetings."

Aldo A. Holtmeier, traffic manager of Crete Mills, Crete, Nebr., agrees: "With a nominal fee the membership will be reduced—however, the reduction will be members who do not now participate."

● **Bring in other modes.** A number of shippers feel that the time may now be ripe to make changes in the way the boards are set up and the way they function. There is some feeling, for example, that the boards ought to become multi-modal.

"Make them shipper-carrier boards—rail-motor-air-water—so that all phases can be covered," suggested Glenn T. Gleason, rate analyst for Zellerbach Paper Co., San Francisco.

W. E. Maby, manager of distribution for U. S. Borax and Chemical Corp., Los Angeles, also suggested that as the boards become self-supporting they be expanded to include all modes of transportation.

C. R. Ellenwood, Jr., manager of transportation services for the American Plywood Association, Tacoma, Wash., applauded the AAR's withdrawal from the boards: "It may create a closer-knit organization within the present membership. Secondly, it will open up new areas for the various advisory boards to consider. Once the membership is advised of new areas of interest by the advisory boards a feeling of curiosity will probably be created and once again the advisory boards will be in the limelight."

Fred H. Tolan, freight traffic consultant, Seattle, Wash., said he would "broaden the scope of advisory boards to include general rate matters as well as car supply and operating and legislative matters."

● **Improving the boards.** Nearly all of the shippers responding to the Railway Age Poll had suggestions for improving the boards' effectiveness. Many of these suggestions were implicitly or openly critical of the railroads for participating too little in board affairs in the past, and for failing to act on shipper complaints aired at the meetings.

J. A. Illes, director of transportation for Outboard Marine Corp., summed up the comments of several shippers, noting: "Currently, too much time elapses before action is taken, if any—though such action could have curtailed some of the decline carriers are now suffering."

W. R. Hart, traffic manager of Evans Products Co., Portland, Ore., said the boards require not only more active participation by shippers but "increased attendance by claim, damage prevention and operating personnel."

C. L. Williamson, general traffic manager, Lone Star Steel Co., Dallas, called for "more executive representation by carriers," asserting: "Shipper executives feel they should be able to talk to people who can act."

Similarly, Carter M. Harrison, manager of transportation for the Louisville (Ky.) Area Chamber of Commerce, asked for greater participation by top-level rail executives "who have the power to act. Then there will be effective boards."

To encourage greater railroad participation, William Libby of Midland Cooperatives—like A. O. Smith's Heilman—would offer membership to carrier representatives. Railroad men would be admitted to membership in two categories: "The Class A would be the chief traffic officer and the chief operating officer or someone delegated to act for either or both. These men would have full membership rights to vote and to hold office. The Class I representatives would be all other railroad personnel but without voting or office-holding privileges."

(Libby is in the minority of Poll respondents who oppose the idea of merging boards. He is against consolidation of territories because "the major thrust of interest and work should be done on a local level. We have never had greater need for a closer alliance and working understanding between shippers and railroads than we have today."

(Stanley L. Parker, traffic manager

(Continued on page 73)

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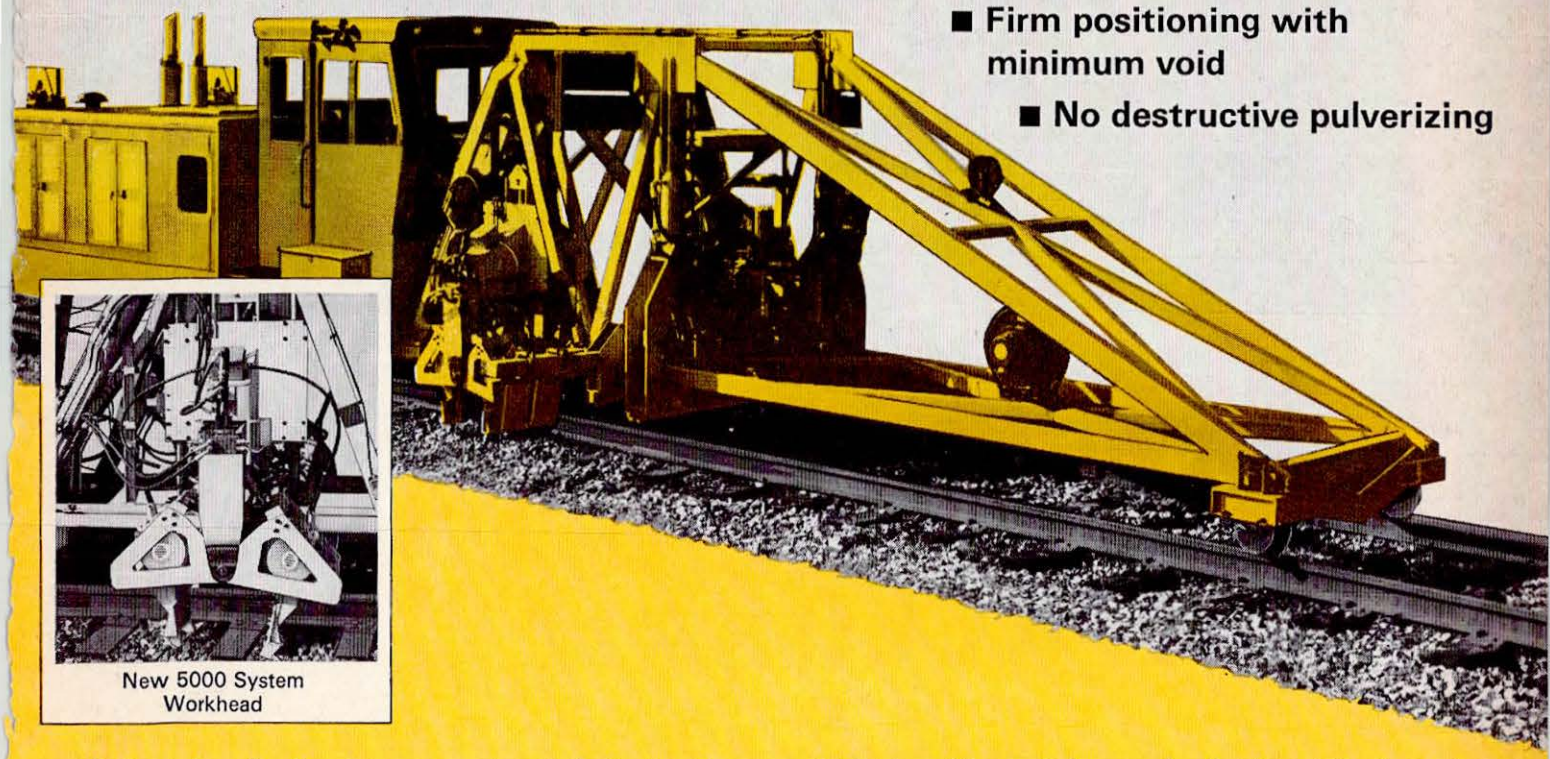

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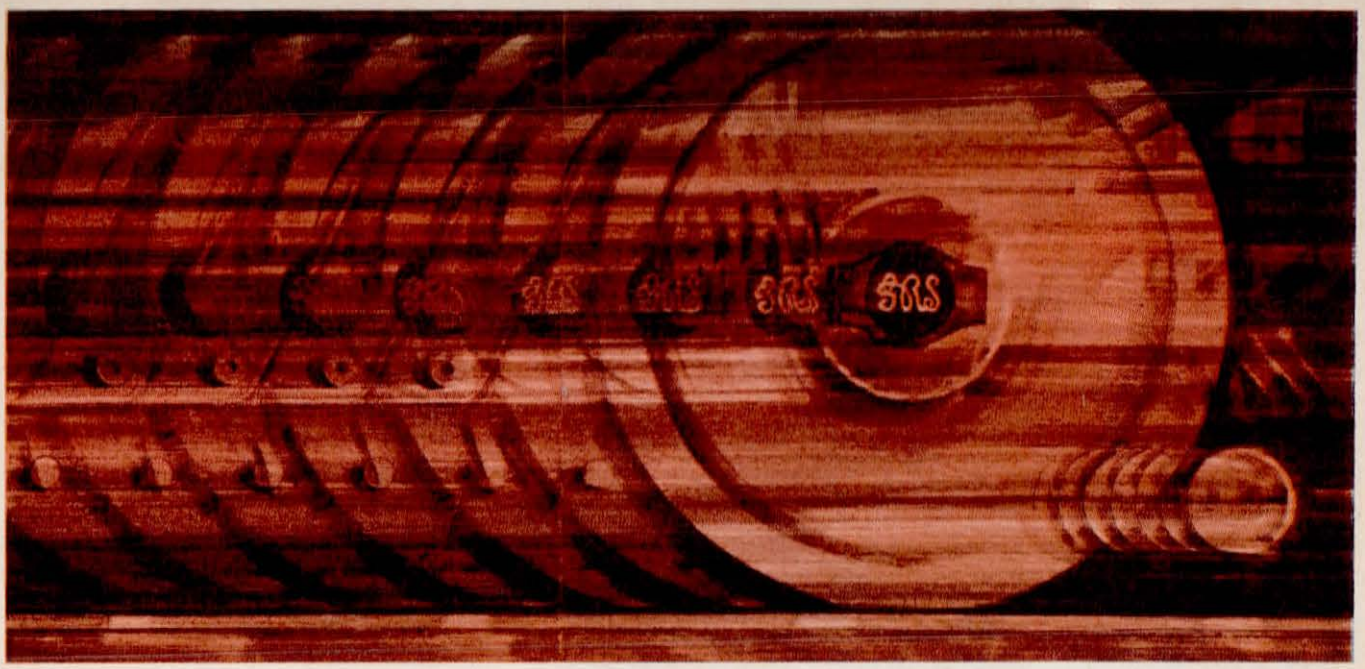

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ONE MOST ACTIVE railroad on the mobile-agency list is Missouri Pacific, which recently got approval to operate 11 routes.

Why shippers like mobile agents

The railroad "experiment" with mobile freight agents is definitely a thing of the past.

This "save-a-branchline" effort that started nearly four years ago on a remote Burlington line in western Illinois (RA, Nov. 20, 1967, p. 15) has quietly ceased to be an experiment: It has become an accepted practice. Agents in four-wheeled offices now run regularly along branchlines of a number of railroads, particularly in the Midwest.

Support for the practice comes enthusiastically from railroaders and shippers alike. The reasons: Railroaders are enjoying lower costs and shippers are enjoying better service.

For those reasons, Burlington Northern, Missouri Pacific, Illinois Central and Union Pacific (for four examples) now operate 152 motorized freight stations, compared with less than a dozen three years ago. And the list definitely will grow.

● **Who has what.** Although it wasn't first with the experiment, Illinois Central is the first to announce full installation. A total of 84 vans now cover IC branchlines in Iowa, Illinois, Indiana, Tennessee, Kentucky, Mississippi and Louisiana. IC says no expansion is needed.

Missouri Pacific operates, or is authorized to operate, 43 mobile agencies that serve 154 stations Eventually, MP says, the scope of the service will be doubled.

Burlington Northern operated 32 mobile agencies that serve 200 stations in Iowa, Illinois, Missouri, Nebraska, Minnesota, Wisconsin and North Dakota. Plans call for addition of at least eight more routes.

Union Pacific, a relative newcomer, operates two four-wheeled agencies serviving 14 stations in Nebraska. Studies are under way for expansion throughout the system.

● **Mobility means money.** The reason why R. G. Johnson, former CB&Q general manager-lines east, pushed the mobility idea in the first place was money—money saved from reduced station-maintenance costs and money earned from improved service. Burlington definitely has saved money. D. A. DeMars, BN station services manager, says: "We estimate annual savings of approximately $620,000 from reduction of manpower and elimination of depots." The savings grow each year, adds R. G. Johnson, now BN assistant vice president-operations, as wages go up and up.

Without giving a dollar figure, G. Clyde Underhill, Missouri Pacific stations operation director, says: "Cost reductions were gained by eliminating the maintenance and utilities at station buildings, and of course, by the reduction in the number of agents."

For Illinois Central, Jack C. Humbert, vice president-operations, says cost reductions have totaled nearly $1 million. UP estimates annual savings of $23,000 from each route.

● **Customers smile, too.** Important as it is, cost reduction is only a part of the measure of mobility's worth. Customer reaction counts, too. In fact, it may count for more in the long run. As BN's Johnson says: "I've received no complaints, and I'm sure the regulatory agencies haven't, and that's how you really judge."

Universally, customer reaction is a cheer. And the cheers are coming at the right places, at hearings before state commissions for new routes.

MP's Underhill describes a situation shared by the other railroads: "Customer reaction has been overwhelmingly in favor of continued use of mobile agencies. Several customers have testified at state commission hearings that the service is better than under the single agency concept."

Roland L. McKee, UP general station manager, adds: "Customer reaction has been gratifying and complimentary. Patrons adjust readily to dependable agency contacts. Old mental blocks, for example that bills of lading would not be ready, have been eliminated. Bills of lading are now prepared in advance of the agent's expected arrival. The mobile agency also affords the customer an opportunity to discuss at his place of business on-ground switching problems and future car requirements. Before, this was not always convenient."

Convenience is the thing that keeps surfacing at public hearings throughout the Midwest. It is the thing that makes

THIRTY ROLLING OFFICES like this enable Burlington Northern freight agents to call directly on their customers. The service has cut BN costs.

believers out of skeptical shippers. For example, the August order of the Missouri Public Service Commission approving 11 MoPac routes cites testimony of several shippers who previously had protested against the change. One former skeptic testified that the plan is working so well that he didn't see how it could "work any better for him." (Witnesses were testifying on experience with two experimental routes in Missouri.)

● **Some traffic gains, too.** Although increasing traffic was a weaker argument in favor of starting the mobility experiment, BN's DeMar says "We believe that because our agent goes to the customer rather than sitting in a depot waiting for the customer, we have increased our traffic by 10.%"

That increase can be traced in part to an improvement in car service and utilization, a benefit witnessed on all four railroads. As Clyde Underhill says: "Cars are being furnished more quickly because the agent has a more complete inventory of available cars. Customers always have contact with a mobile agent or the base station agent."

One benefit shared by carrier and customer alike, and another reason for traffic growth is described by IC's Jack Humbert. He says the mobile agent "has the effect of opening for traffic purposes several hundred previously 'closed' [prepay] stations." Such stations are not physical structures necessarily, but simply pickup-delivery points. Formerly they were restricted largely to prepaid shipments because there was no agent to handle transactions. Now an agent often can be on the scene when needed. Freed from former restrictions, many points become more convenient for the shipper and more conducive to rail traffic. The result is a substantial change in the listings in Lelands Directory of Open and Prepaid Stations.

● **No change in strategy.** From Jan. 3, 1967, when the first van moved along CB&Q lines, up to now, the strategy has remained the same. The plan is common to all railroads involved: One mobile agent covers a number of stations in one area, while one permanent base agent covers the central and usually the biggest station in the area.

On UP's Norfolk branch in north-central Nebraska, where UP's second van started running in August, four stations have been closed and a fifth remains open as a base. The agent at the base station and in the van operating from the base can be reached by a special Enterprise phone number. UP pays for business-related calls.

The other route for newcomer Union Pacific is near the Norfolk branch. The route covers 10 stations on the two-pronged Ord-Loup City branch that runs northwest from Grand Island. The mobile agent covers 110 miles, with the base agent at the point where the branch splits.

Populations of the communities served are typical of rural areas covered by mobile agents throughout the Mid-West. The range: From 80 people to 2,500. Maximum business from one customer is about 2,500 carloads a year.

● **More than satisfied.** Reactions at any of these points are typical, too. One comes from a former doubter, Virgil Beneke, operator of the Farmers Coop Elevator in Ord, Neb., at the northwest end of the Ord-Loup City branch. Beneke's statement is part of a feature story—100% favorable—carried recently in the Omaha World-Herald magazine: "I have to say I was doubtful at first," Beneke is quoted as saying. "I didn't think it would work, just to have a mobile agent working in the area. We averaged about 200 carloads before the depot closed and I wondered how the UP could maintain efficiency. But I have to admit I'm more than satisfied with the mobile service."

A look east across two great rivers finds one of the first mobile agents still behind the wheel. Since early 1967, Clifford A. Meadows, BN agent, has been driving through the farmland near Galesburg, Ill. He covers four stations from a base 40 miles outside of Galesburg. His route is the 50-mile Joy line, named after Joy, Ill., pop. 503, at the west end of the branch.

Meadows says he would make no change in a statement he made three years ago: "This is a more practical way to serve our shippers. And I like it because it gets me away from the monotony of depot existence. Now that I have personal contact with shippers in their own offices, I feel and act more like a sales representative."

Like all mobile agents, Meadows travels in a fully-equipped moving office. Unlike some mobile agents, he has a two-way radio for communication with yard dispatchers and train conductors.

● **MoPac first.** Although BN's Cliff Meadows apparently was the first mobile agent on the road in an official freight-office van with an official station-by-station schedule, Missouri Pacific claims an early experiment with the concept. Starting in 1964, during the fruit and vegetable harvest in the Rio Grande Valley of Texas, MoPac has had agents on the road. Although their equipment was not as sophisticated (agents traveled in their own autos), the principle was the same: Make it convenient for the customer. ■

People in the News

Edward L. Claypole
PC

Edward P. Frasher
PC

Theodore E. Desch
Rock Island

William J. Dixon
Rock Island

Robert D. McEvers
Union Tank Car

J. J. Stallmann
P-S—Trailmobile

FRISCO.—George E. Warfel, assistant chief engineer-maintenance, named chief engineer, succeeding **O. E. Fort,** retired.

PENN CENTRAL.—Edward L. Claypole appointed vice president operations—East and **Edward P. Frasher,** vice president operations—West, reporting to **Robert G. Flannery,** executive vice president for railroad operations. Mr. Claypole will supervise the Northeastern Region, with headquarters in New Haven; the Eastern Region with headquarters in Philadelphia, and the Central Region, with headquarters in Pittsburgh. Mr. Frasher will have responsibility over the Northern Region, with headquarters in Detroit; the Western Region, with headquarters in Chicago, and the Southern Region, with headquarters in Indianapolis. Messrs. Claypole and Frasher will have offices at system headquarters in Philadelphia but will spend most of their time out on the road finding problems and resolving them at their source. They will have responsibility for maintenance of track and equipment as well as for train operations. **Richard B. Hasselman,** assistant vice president—transportation, appointed vice president—transportation, succeeding Mr. Claypole, and reporting to Mr. Flannery. **E. Robert Adams,** assistant general manager—Eastern Region, Philadelphia, named vice president, Metropolitan Region, New York, replacing Mr. Frasher, and reporting to **Paul Funkhouser,** senior vice president—passenger service.

William L. Davidson, assistant superintendent—labor relations and personnel, Youngstown, Ohio, named superintendent—labor relations and personnel, Eastern Region, Philadelphia, succeeding **Frank J. Edzwald,** named associate director—personnel, **Pittsburgh & Lake Erie,** Pittsburgh.

PITTSBURGH & LAKE ERIE.—William H. Moore, who became president of the **Penn Central** on Sept. 1, on Sept. 9 was elected to the board of directors and named chairman and chief executive officer, P&LE. Mr. Moore, who was also appointed to the board's executive committee, succeeds **Paul A. Gorman,** who resigned last month. **Henry G. Allyn, Jr.,** continues as president of the P&LE.

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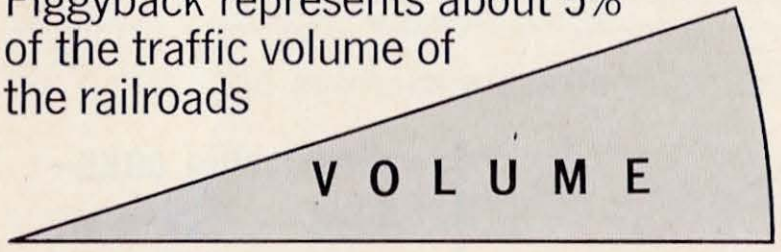
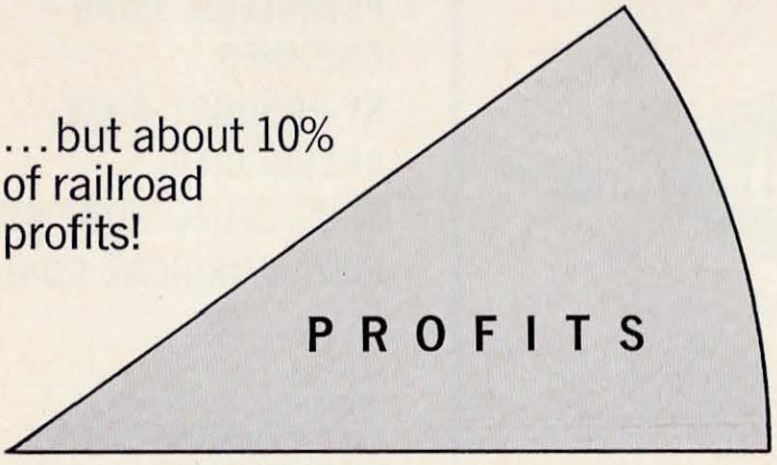


...but about 10% of railroad profits!



Moral: You should be in Railway Age's **Piggyback/Container Annual Roundup.** October 26, 1970. Advertising closes October 12.

ROCK ISLAND.—**Peter Kiewit** elected acting chairman of the board. **Theodore E. Desch,** vice president and general counsel, elected vice chairman of the board, chief executive officer and a director. **William J. Dixon,** senior vice president and a director, elected president. Mr. Kiewit is chairman and chief executive officer, **Peter Kiewit Sons' Inc.,** Omaha, and a member of the **RI** board.

SUPPLY TRADE

Robert D. McEvers has been appointed president, **Tank Car Division, Union Tank Car Co.** Mr. McEvers, who has been general manager of the division, will continue as vice president and a director, **Trans Union Corp. Howard W. Morris** has been named assistant vice president-fleet repairs for **Union Tank.** A nationwide service organization to sell tank car parts and repair services to companies who own and operate tank cars under their own reporting marks is being planned by **Union Tank. W. E. Allen** will serve as a full-time consultant on the new program which is expected to be in operation during the first quarter of 1971.

J. James Stallmann has been appointed director of advertising, **Pullman-Standard** and **Trailmobile Divisions, Pullman Incorporated.** He will also supervise merchandising services for **Trailmobile.**

Pandrol Limited, London, England, has appointed **Unit Rail Anchor Co.,** Pittsburgh, Pa., as its sole agents in the United States for sale of "Pandrol" rail fastening components.

OBITUARY

H. Horton Hampton, 83, retired vice president—industrial development of the former **Nickel Plate** (now part of the **Norfolk & Western),** Cleveland, died Sept. 13 at Winter Park, Fla.

Thomas M. Healy, 69, management member, **Railroad Retirement Board,** died Sept. 7 in St. Francis Hospital Evanston, Ill.

Albert C. McIntyre, 81, who retired in January 1959 as vice president—traffic, **Lehigh Valley,** died Sept. 15 in a nursing home in New Providence, N.J.

Henry P. O'Leary, 59, regional manager, public relations, **Santa Fe,** Los Angeles, died Sept. 14.

William E. Swingle, 67, retired assistant to operating vice president, **Milwaukee,** Chicago, died Sept. 6 in Sparks Manor Hospital, Fort Smith, Ark.

Frank M. Tewksbury, 67, retired special assistant to the vice president and controller, **Illinois Central,** died Sept. 9 in Illinois Central Hospital, Chicago.

Paul J. Wimsey, 83, retired general solicitor, **Chicago & Eastern Illinois,** died Sept. 13 at his home in Terre Haute, Ind.

Photo of Niagara Falls
by W. R. Wilson

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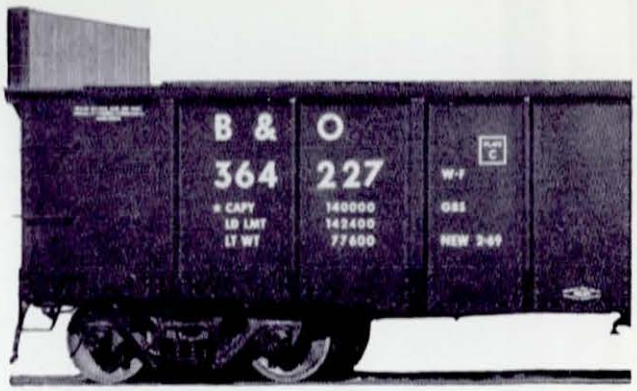

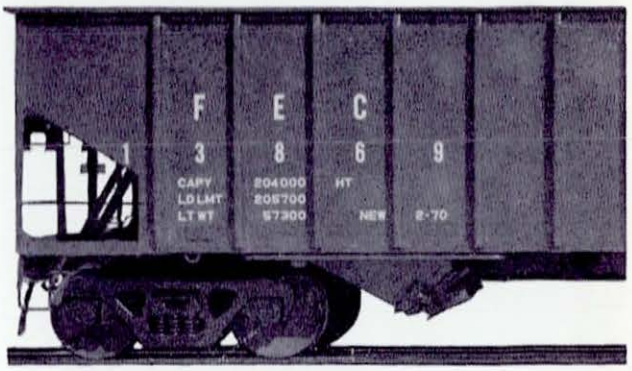

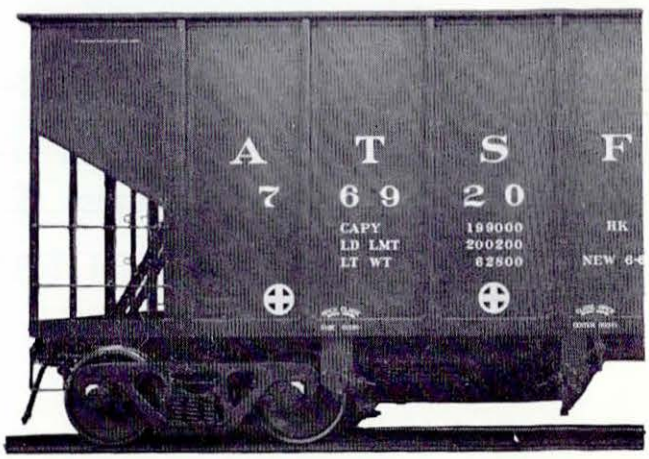

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New test center for high-speed vehicles

(Continued from page 45)

sion to reach these very high speeds and we are going to learn whether we need passive or active suspension systems."

Differences between the LIMRV and the TACRV were explained by Ward. One is the source of power. "The LIMRV," he said, "has a gas-turbine alternator on board to generate power for the linear motor. The TACRV, on the other hand, will pick up the power from the wayside. There is also a development problem in picking up power from a stiff rail at speeds of 300 mph. We have a request out for proposals for the power collection and distribution equipment, including the substations and the collector rail."

● **U-shaped guideway.** Ward explained that the guideway for the TACRV would be U-shaped and would be built of reinforced concrete, with horizontal running surfaces for the air cushions which support the vehicle and with vertical walls on each side for lateral guidance. He noted that other configurations have been proposed, including an inverted T for the Aerotrain in France. The air cushions are in the center of the vehicle instead of on the outside as in the OHGST vehicle. In a British design a simple concrete box is proposed. The vehicle sits on top with skirts extending down over the sides. In this design the support cushions are on top while the guidance cushions are in the skirts.

Plans at the Pueblo site include provision for an tangent right of way 20 miles long. "Our purpose in obtaining this right of way," explained Ward, "is to be able to build straight or tangent guideways when we get the systems that will operate above 300 mph. We don't want to have the lateral acceleration problem that we would have on the curves in the oval."

● **Tube vehicles planned.** For operation in the 20-mile right of way, the researchers are thinking of vehicles that would operate in evacuated tubes, perhaps at speeds of as much as 500 mph. "We'll use vacuum pumps to lower the pressure in the tube down to perhaps as low as 1/100th of an atmosphere," said Ward. "The purpose will be to reduce the drag which begins to consume tremendous quantities of power when we get up to 300 mph or more in the open."

Research is already under way to determine the type of tube system that will be constructed. Apparently this research will be exploring new territory. "There hasn't been much done on the aerodynamics of flying a vehicle through a tube," Ward said. He indicated that no scaling laws had been developed for tubes as there have been for aircraft so the designers can test a small model in a wind tunnel and then scale the results up to a full-scale craft. Hence, for test purposes, Ward doesn't know whether a small diameter tube will be built or whether it will be necessary to go to a full-size tube.

He added: "We are expecting that we will be able to build a 3-foot- or 5- foot-diameter tube and do a lot of initial experimenting before going to a full-scale tube. The small-scale tube might be a couple of years away, with the timetable for the full-scale tube being somewhat more indefinite, depending on the results with the small-scale tube."

The immediate timetable for testing at the Pueblo site is pretty well set. The money has been appropriated to build the 6.2 miles of track. The LIMRV has been built and it is hoped the vehicle will be on the site early in 1971. As for the TACRV project, money has been appropriated for the design of the vehicle, including the linear motor, the guideway, and the power collection and distribution system.

Ward further explains that money for the construction of the TACRV and the first section of the guideway and all the associated equipment, amounting to a little over $8 million, is in the 1971 fiscal budget, but Congress has not yet appropriated the funds.

Money is expected to be requested in the fiscal 1972 budget to complete the 21.8-mile oval, to conduct additional testing and to continue with the program in other respects.

● **Applications for TACV.** What applications do the researchers visualize for the TACV? In passenger service between large metropolitan centers of population, for one thing, says Ward. In serving airports for another, he adds.

A forerunner of these applications is the demonstration TACV system that has been projected to run from downtown Los Angeles to International Airport, a distance of 16 miles. The Urban Mass Transportation Administration has made available an initial grant of $300,000 for studies of the project, and Kaiser Engineers has been awarded a contract for making route studies. Technological expertise is being provided by OHSGT.

The Los Angeles TACV will be designed to operate at a maximum speed of 150 mph. The researchers at Washington refer to this as a " state of the art" project, meaning that the necessary technology to support such a system is now available. The objective at Pueblo, initially at least, is to develop technology to make the 300-mph TACV a "state of the art" system. ■

Are shipper boards worth preserving?

(Continued from page 62)

of Pacific Lumber Co., Siesta, Calif., would actually increase the number of boards, "making them the more local"—and at the same time making meetings "less ritualistic and more responsive to actual needs of average shippers.")

● **The "no" vote.** Those shippers who find that the Shipper Boards no longer serve a useful purpose have, in many cases, some of the same criticisms held by those who want to see the boards continued.

"It is difficult to recall any constructive action taken by our own Great Lakes board which directly improved rail service or car supply," said Phillip T. Catalano, traffic and distribution manager, Steelcase, Inc., Grand Rapids, Mich. "If the 13 boards were to disband tomorrow I doubt if it would make any difference to our company insofar as rail service goes."

"If the shipper boards were not considered worth continuing by the AAR, they are not worth supporting in any fashion," said Arthur Roy, general manager of traffic for Pennsylvania Glass Sand, Pittsburgh. "The same job can be done by other shipper groups."

R. E. Alexander, vice president of the Pillsbury Co., Minneapolis, said the boards appear to have outlived their usefulness "in view of present modern communication channels."

J. D. Robins, director of traffic, Caterpillar Tractor Co., Peoria, Ill., noting that "throughout the years many tries have been made to no avail" to make the shipper boards effective, went on to say: "Development of national transportation obviates the necessity of these boards."

Among others who felt the boards no longer were of value were Kenneth L. Vore, vice president, traffic and transportation, U. S. Steel Corp., Pittsburgh; Philip H. Vaughan, director of traffic, Schlitz Brewing Co., Milwaukee; Lyman McLand, manager of traffic and transportation, Campbell Taggart Associated Bakeries, Inc., Dallas; R. L. Clinton, traffic manager, Honeywell, Inc., Minneapolis; David H. Wetzel, general traffic manager, American Olean Tile Co., Inc., Lansdale, Pa.; William N. Montgomery, director of transportation, Riegel Paper Corp., Milford, N. J.; J. M. Benson, distribution manager, Hiram Walker & Sons Ltd., Windsor, Ont.; E. B. Kelsey, assistant traffic manager, Container Corp. of America, Carol Stream, Ill.; G. E. Jackson, manager traffic and transportation, H. J. Heinz Co. Pittsburgh; Rhodes C. Berrey, vice president traffic and physical distribution, U. S. Gypsum Co., Chicago; William F. Krause, assistant manager of transportation, Crown Zellerbach Corp., San Francisco.

While the current president of NASAB takes the position that the shipper boards can and will continue to function (see p. 62), a past president—Lee K. Mathews, general distribution manager, Missouri Portland Cement Co., St. Louis—told Railway Age "reluctantly" that "the boards have served their purpose and should be allowed to fade away." He said he doubted whether car supply, for example, was any longer a problem that could be resolved by "mere co-operation."

In any event, said Mathews, the recent AAR action "certainly will weaken the boards. . . . In fact, the weakness will probably be cancerous resulting in death. I take this position with apology to my many friends in the shipper boards throughout the country and with a special apology to the present officers of NASAB who are dedicated and devoted to the furtherance of a healthy rail transportation system." ■

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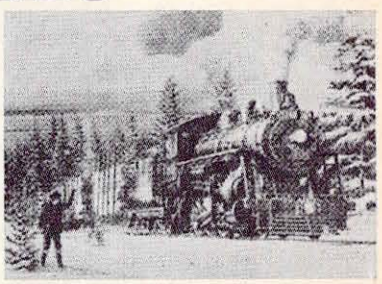

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INDUSTRIAL TRAFFIC

Walter E. Morgan has been appointed manager—traffic control, central distribution department, **Union Carbide Corp.**, New York. He was formerly group manager—traffic control for chemicals and anti-freeze.

Gene M. Derks, general traffic manager, **Fort Howard Paper Co.**, Green Bay, Wis., has been elected vice president—transportation.

Robert R. Huette, manager—traffic operations, **Iowa Beef Processors, Inc.**, Dakota City, Nebr., has been named manager—transportation projects.

A. N. Glick has been appointed manager of distribution and traffic, **Boyle-Midway Division** of **American Home Products Corp.**, New York, succeeding **M. B. Smith,** who is now associated with the parent company.

Edward A. Krause, manager of marketing services, **Barco Division, Aeroquip Corp.**, Barrington, Ill., has been advanced to distribution manager.

R. W. Walters, assistant director, transportation and distribution, **Boise Cascade Corp.**, Boise, Idaho, has assumed total responsibility for transportation distribution planning. He will continue to oversee cost and analysis functions, as well as transportation services and operations. Reporting to Mr. Walters: **Harvey Fisher,** transportation planning and development; **Dick Ledyard,** manager of systems development; and **Ray Adkins,** manager of distribution planning. **D. W. Berg** becomes general manager of transportation services with all the group traffic managers reporting to him, along with **Clem Brantl,** manager of materials handling, and **Derry Nicholson,** manager of international transportation. **W. H. Johnson** named traffic manager—office marketing and envelopes, reporting to Mr. Berg. **W. D. Harris** appointed general manager of transportation operations, with overall responsibility for the Trucking Division and the **Minnesota, Dakota & Western. Hal Covert** named assistant traffic manager—paper, Portland. **Bob Ray** named assistant traffic manager—packaging, St. Louis.

Thomas D. Shannahan, Jr., district traffic manager, Johnstown, Pa., plant, **Bethlehem Steel Corp.** named administrative assistant, Bethlehem, Pa. **Carl W. Eckenrode,** assistant district traffic manager, Burns Harbor, Ind., plant, succeeds Mr. Shannahan. **Gerald R. Schmidt,** senior transportation assistant, Bethlehem, succeeds Mr. Eckenrode.

Robert S. Jones, rate analyst, has been appointed assistant traffic manager, Prefinishing Group, **Evans Products Co.**, Corona, Calif.

OBITUARY

James Freeman Haley, 62, vice president of transportation and traffic services, **Koppers Co.**, died Sept. 9 in Allegheny General Hospital.

Market Outlook

CARLOADINGS

Loadings of revenue freight in the Labor Day holiday week ended September 12 totaled 486,372 cars, according to the AAR. This was a decrease of 75,845 cars, or 13.5%, compared with the previous week; a decrease of 100,655 cars, or 17.1%, compared with the corresponding week last year; and a decrease of 96,386 cars, or 16.5%, compared with the equivalent 1968 week. Ton-miles generated by carloadings in the week ended September 12 are estimated at 13.1 billion, a decrease of 15.7% below the corresponding week of 1969, and 12.1% below the 1968 week.

REVENUE FREIGHT CARLOADINGS

Commodity	Sept. 12 week	Sept. 5 week
Grain	25,243	29,686
Farm products	9,903	10,401
Metallic ores	44,993	55,162
Coal	96,236	107,029
Crushed stone, gravel & sand	29,525	34,739
Nonmetallic minerals	10,045	11,284
Grain mill products	16,296	19,648
Food & kindred products	22,663	25,807
Primary forest products	22,169	24,367
Lumber & wood products (except furniture)	12,717	15,503
Pulp, paper & allied products	18,858	23,677
Chemicals & allied products	23,172	26,187
Petroleum products	8,940	10,346
Stone, clay & glass products	18,082	21,075
Coke	8,174	8,099
Metals & products	22,167	26,991
Motor vehicles & equipment	19,483	22,004
Waste & scrap materials	12,952	15,402
Forwarder & shipper assn. traffic	6,049	7,314
All other carloads	58,001	66,734
LCL traffic	704	762
Total cars loaded	486,372	562,217

CUMULATIVE TOTAL, 37 weeks	1970	1969	1968
	19,335,984	19,803,286	19,997,888
Estimated revenue ton-miles (billions) 37 weeks	539.0	538.4	526.7

PIGGYBACK CARLOADINGS

U.S. piggyback loadings for the week ended September 5 totaled 25,583 cars, carrying 41,896 trailers or containers. That was 8.5% above the comparable 1969 week, which included the Labor Day holiday. Cumulative volume for the first 36 weeks of 1970 is 881,323 cars, 4.4% below the 1969 total, and 1,460,656 trailers or containers, 3.3% under last year.

IN CANADA

10 days ending	Revenue Cars Loaded	Cumulative Totals
Aug. 31, 1970	102,735	2,529,854
Aug. 31, 1969	91,429	2,392,210

FREIGHT-TRAIN CARS

● *CP Rail.*—Has ordered 50 saddle-back caboose cars from the Montreal Augus Shops at a cost of $1.8 million. Delivery is scheduled for late this year. The cars have been especially designed by CP Rail's mechanical department for run-through service.

● *Penn Central.*—Has announced a $9.4-million freight-car modernization program involving 1,158 cars. Included are 643 cars to be rebuilt and modernized at the Samuel Rea Shop and 515 box cars to be rebuilt and lengthened to 50 feet at the Beech Grove Shops. The Samuel Rea Shop project covers 391 70-ton gondolas (which will get steel floors designed to support metal shapes and other heavy freight), and 252 box cars (of which 200 will be fitted with extra-wide doors to permit faster loading and unloading by forklift equipment).

● *Trailer Train.*—Is taking delivery of 816 new 89-ft, 4-in. flat cars as follows: from Amcar Division of ACF—235 standard level and 21 low level cars; from Bethlehem Steel—241 standard level cars; from Pullman-Standard—241 standard level and 78 low level cars. Deliveries are expected to be completed by October 15. As of September 2, TTX cars in service and undelivered totaled 57,855.

● *August bad order ratio 0.2% higher than 1969.*—Class I roads on Aug. 1, 1970, owned 1,432,708 freight cars, 10,416 fewer than on Aug. 1, 1969, according to AAR report summarized below. Bad order ratio was 0.2% higher than on Aug. 1, 1969.

	Aug. 1, 1970	Aug. 1, 1969	Change
Car ownership	1,432,708	1,443,124	−10,416
Waiting repair	80,840	77,232	+ 3,608
Repair ratio	5.6%	5.4%	+ 0.2%

CAPITAL EXPENDITURES

● *Missouri Pacific.*—Will order 25 diesel-electric units; 400 50½-ft, 70-ton box cars; and 100 100-ton covered hopper cars, at a total cost of about $16 million. Box cars will be equipped with cushioning and load-restraining devices.

NEW FACILITIES

● *Detroit, Toledo & Ironton.*—Has ordered 18 KarTrak automatic car identification systems from Sylvania. The order is the largest single order placed to date for ACI systems, says William S. Wheeler, vice president of Sylvania's Commercial Electronics Division, which produces KarTrak. When the systems are installed later this year, Sylvania says, DT&I will be the first North American railroad to fully implement ACI on a system-wide basis.

MAINTENANCE EXPENDITURES

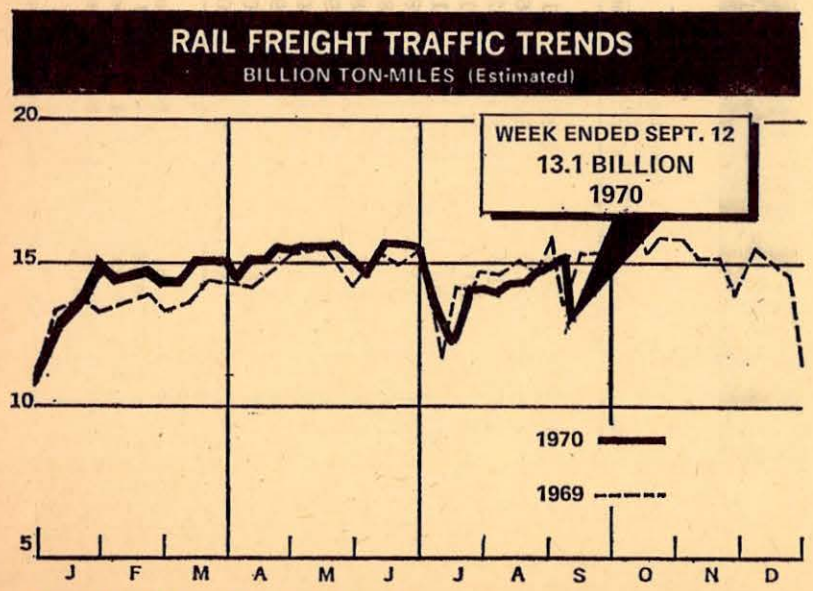
● *Second quarter 9.6% above second quarter of 1969.*—Expenditures by Class I roads for maintenance of equipment, way and structures in the second quarter of 1970 were up about $84 million, compared with the second quarter of 1969, according to report of AAR Economics & Finance Department, summarized below.

	Second Quarter 1970	1969	% Change
Maintenance of way and structures	$414,240,661	$380,947,823	+ 8.7
Maintenance of equipment	547,668,475	496,667,983	+10.3
Totals	961,909,136	877,615,806	+ 9.6

FOREIGN

● *British Railways.*—Has awarded a contract for about $500,000 to Servo Corp. for Hot Box Detective systems.

● *Pakistan.*—General Electric's Locomotive Department at Erie, Pa., has begun shipment of 65 locomotives to the Pakistan Western Railway. Included are 42 2,150-hp U20C and 23 1,650-hp U15C units.



Source: Association of American Railroads

Measures of freight car use[1], class I railroads, selected years

Year	Revenue ton miles	Non-revenue ton miles	Total revenue and nonrevenue ton miles	Revenue ton miles per revenue carload originated	Aggregate capacity of freight cars in service[2] (millions of tons)	Revenue and nonrevenue ton miles per ton of capacity
	Billions	Billions	Billions			
1939	333.4	30.4	363.9	13,825	82.0	4,437
1943	727.1	44.8	771.9	20,391	89.0	8,676
1947	654.7	41.9	696.6	17,711	89.2	7,807
1951	646.6	30.9	677.5	18,504	92.7	7,311
1955	623.6	18.6	642.2	19,035	91.2	7,040
1959	575.5	12.7	588.2	20,390	92.3	6,375
1963	621.7	11.2	632.9	22,618	85.9	7,364
1964	658.6	11.3	669.9	23,271	86.7	7,729
1965	697.9	10.9	708.8	24,621	88.3	8,025
1966	738.4	11.2	749.6	25,539	91.4	8,197
1967	719.5	10.8	730.3	26,148	93.7	7,797
1968	744.0	11.7	755.7	26,935	93.5	8,079
1969	767.9	10.0	777.9	27,692	94.5	8,236

Year	Car miles Billions: Loaded	Car miles Billions: Empty	Percentage of total car miles which are loaded: Total	Revenue carloads originated
				Millions
1939	13.6	8.2	21.8	24.1
1943	23.2	12.9	36.1	35.7
1947	21.4	10.8	32.2	37.0
1951	20.6	10.6	31.2	34.9
1955	20.1	11.1	31.2	32.8
1959	17.8	10.8	28.6	28.2
1963	17.1	11.0	28.1	27.5
1964	17.5	11.4	28.9	28.3
1965	17.9	11.4	29.3	28.3
1966	18.3	12.0	30.3	28.9
1967	17.4	12.2	29.6	27.5
1968	17.8	12.3	30.1	27.6
1969	18.0	12.4	30.4	p27.7[3]

p Preliminary
[1] Ratios are based on actual figures. Data may not add due to rounding.
[2] Cars in service of class I railroads—owned and leased at close of year.
[3] AAR carloads originated from Freight Commodity Statistics.
Source: Transport Statistics in the United States, and prior releases. Carloadings, unless otherwise noted, Freight Commodity Statistics, Class I Railroads in the United States, and prior releases.

Viewpoint

A story told in mournful numbers

"As an industry, our financial position is desperate. I couldn't possibly exaggerate the seriousness of the situation. Railroad survival is at stake," AAR President Thomas M. Goodfellow grimly told the San Francisco Rotary Club on Sept. 22.

But grim words have been heard before. Railroads have, unfortunately, sometimes tended to exaggerate the seriousness of a given situation in order to make a point. One result of the "cry wolf" strategy of yesterday is that, today, the notion is abroad in some quarters that the railroads are not nearly as badly off as they claim to be—that they have simply seized upon the Penn Central crisis as an excuse to get in line at the public trough, and pick the pockets of their customers.

Any such notion is dangerous, because the railroad situation is as grim today as it has ever been. If speechmaking won't convince the shipping community and the public at large that this is the case, perhaps a close examination of a 51-page document now on file at the Interstate Commerce Commission will.

This document, filed in suport of the petition of Eastern and Western roads for a 15% rate increase, ought to be must reading for every Congressman, every shipper—every railroad speech writer.

Shippers who are amazed at the "unmitigated" gall of railroads in filing for still another increase, might, for example, find some mitigation in the news that all of the increases authorized in Ex Parte Nos. 256, 259 and 262, and requested in Ex Parte 265, still fall short—by $731 million—of meeting the total cost of wage increases and cost escalations experienced since early 1966. These increases have amounted to $2.75 billion.

And this is only part of the story. In page after page of statistics, the story of an industry fighting for its very life as a private enterprise unfolds.

Net working capital has dropped from $636 million four and one-half years ago to a deficit of $322 million.

This has come about at a time when the railroads have long-term debt of $679 million due within a year—and $3.3 billion of debt maturing in the period 1971-75.

It has come at a time when the industry is looking desperately for money to modernize. (The ASTRO report says expenditures should amount to $3.2 billion for 1970 and 1971 and rise to $3.4 billion by 1980. Actual spending averaged only $1.7 billion a year in the 1966-68 period.)

"REMEDIES MUST BE FOUND"

Mr. Goodfellow clearly was not exaggerating when he told his San Francisco audience: "Railroads are in deep trouble. Railroads need help. Railroads aren't earning or attracting money. Without money railroads will fall to nationalization. One way or another, remedies for railroad ills must be found for the good of all."

One remedy is a rate increase big enough to take care not only of yesterday's problems—but to shore up for tomorrow's.

Good business in hauling automobiles

(Continued from page 40)

August. The car, with its load of Vegas hanging bumper-down like sides of beef, originated at GM's Lordstown, Ohio, plant and made the final leg of the trip to Los Angeles in one of the new GM unit trains.

● **How about containers?** Introduced earlier this year with a lot less fanfare than Vert-A-Pac was another protective method of transporting new automobiles by rail. Called "Packy," this is a cargo container, featuring an aluminum frame and a molded fiberglass top, which can carry a factory-serviced automobile. Fifteen of these "boxes on wheels" can be loaded aboard a tri-level auto rack car. Furthermore, they're hermetically sealed against pilferage and damage.

These auto containers, which can be used to haul other commodities on the return trip, have been considered but not yet tested by GM. (The Vega 2300, incidentally, was mentioned as one of the automobiles which might be used in the test program.)

● **Evolution not revolution.** Although other new ideas are certain to come along, there is no indication right now that a revolutionary change in rail equipment serving the automobile industry will take place. Reassures Ford's Haupt, "We see no major changes in equipment in the '70s such as we have experienced in the last decade."

This means, then, so far as Ford is concerned, the auto-rack car, the 86-foot-high-cube box car, the 60-foot-high-density box car, the auto-frame flat car and, of course, the 50-foot DF box car, will be making up the bulk of the industry's fleet in the new decade. Haupt warns, however, that, while the type of equipment may not change to any great extent, the numbers will have to. Looking ahead to the 1975 and 1976 model years, he sees tremendous numbers of automobiles being produced (much higher than the 9.2 million predicted for the 1971 model year), but frets over whether railroads will have the necessary equipment to share in this growth.

The automakers, GM particularly, aren't taking any chances on their planned pace being slowed by existing sources of transportation services that aren't now planning to share in the nation's growth, too. This past April, a stretch DC-8 cargo jet landed in Ontario, Calif., and promptly began disgorging such things as truck tires, gasoline tanks and fenders. These are the parts that normally go by rail. These flights are now operating on a daily schedule out of Detroit.

● **Total transportation.** Both GM and Ford have substantial land holdings in the area bounding Detroit's Willow Run Airport. GM is already starting to fill its 1,000 acres on the fringe of the airport. A master parts center serving the GMC Truck & Coach Division is under construction adjacent to the airport. This new center is not totally air-oriented, however; both truck and rail loading docks are important elements.

To be sure, the rails are going to have to keep on their toes if they are to be regarded by the automakers as one of the chief sources of transportation services. As they enter the '70s, railroads certainly find themselves in a much stronger competitive position than at the beginning of the '60s. When the '60s begin, railroads were coming off a year in which they were able to capture only 7.8% of the tonnage and 14.9% of the revenues, which new-automobile traffic was generating. Ten years of aggressive marketing tactics by railroads have caused these percentages to rise to well over 40% in tonnage and above 50% in revenues.

Obviously, in the eyes of the automakers, the railroads have been doing many things right up until now. If, as Haupt of Ford points out, the decade we're entering "offers a golden opportunity for the railroads," then the chances that railroads will capitalize on them are also better than good. ■

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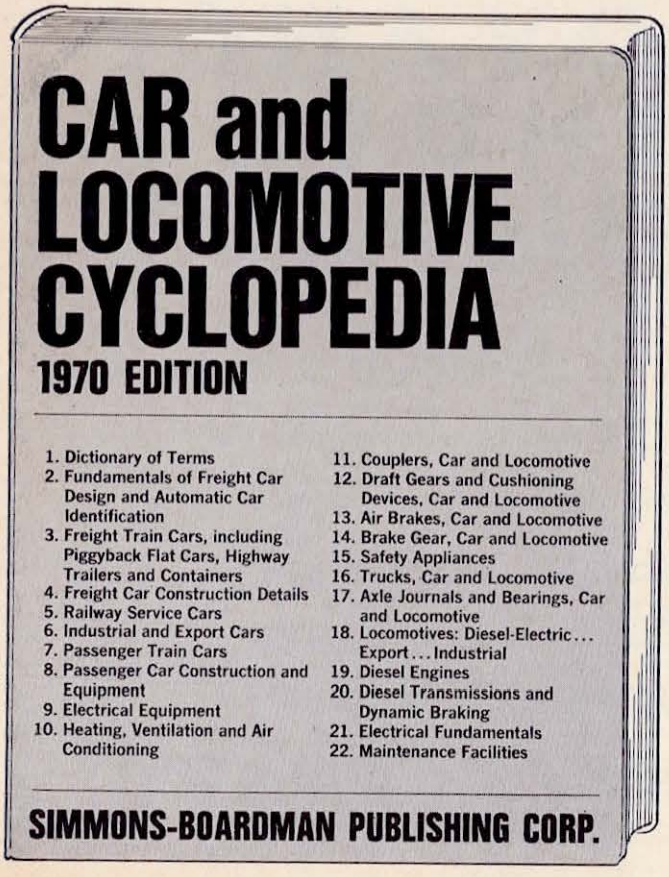
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WEST GERMANY'S AUTO-ON-TRAIN SERVICE last year was 50% above '68 results.

Private auto haulage soars

There is an incredible boom in auto-carrying services on European railroads. French customers have doubled over the last five years and multiplied by six times since full-scale, network-wide introduction of services in 1960. In West Germany, Deutsche Bundesbahn's *auto im reisezug* service carried 77,000 autos and over 200,000 passengers last year—well below French totals (134,577 autos and 328,052 passengers) but a gigantic 50% jump over DB's 1968 results. No wonder the posters plastered all over Munich East station scream out: "Auto-carriers are the in thing."

And on British Railways—where the whole thing started way back in the late Fifties—10,000 more auto spaces have just been added to the 97,000 which were sold last year. Tourists and families provide the hard core of traffic but BR reckons there is a big, largely untapped market in business travellers.

The reason for European successes seems to be obvious: autos and passengers travel on the same train which gives the priceless bonus of cars on-the-spot at destination.

Japanese National has some problems, too

It comes as something of a surprise to learn that all is not well on Japanese National Railways. What with the Tokaido bullet trains and other technological breakthroughs chalked up by the Japanese in the last decade, JNR is generally hailed by U. S. observers as everything a good railroad should be. Well, according to a specially-appointed government committee, system operations are not as efficient as they might be. Specifically, the committee accuses JNR of continuing an "anachronistic" management system which forces officers to spend all their time dealing with day-to-day problems and too little to long-range planning. And "there is a lack of a sense of crisis and obligation to duties at a time when their business would be on the brink of bankruptcy were it a private enterprise."

Bankruptcy? Well JNR certainly has its money worries. Last year's deficit was around $361,000,000 and recent fare increases have failed to do much to get the system out of the red.

Top JNR men agree with much of the report's contents. But, they say, it's solutions we want not just criticism. And the committee has been lamentably short on answers. Beyond suggesting that radical changes in the railroad's system of employment might help "instill employees with a new sense of duty and improve their morale" the report fails to find any solution to JNR's fiscal and management bind. Without massive government help, system officers are beginning to wonder if there is one.

High truck rates boost rail container service

The growth in containerization—particularly between Europe and the United Kingdom—has staggered everybody, reckons F. W. Hammond, freight development manager, British Railways. "It is only in the last year that containerization has been accepted in Europe," says Hammond. "We have been promoting containers there for the last six months, but not so many months ago containerization was still thought of as a threat to traditional methods of movements."

No longer, however. Both the West and East Germans now have a most effiicient container network. Hungary, Czechoslovakia and Poland are following. France is investing vast amounts in terminals, rolling stock and facilities. Holland and Belgium see containers as their life blood. Spain is showing interest and the Italians, says Hammond "are constantly in the UK studying containers."

Why the sudden surge of interest? The French have coined a phrase for it: "Containers sell railways." The reason is not hard to find—freight by highway truck in Europe is now costing roughly twice as much as a load sent by container train. In Britain, for instance, a freight train loaded with 45 containers costs shippers approximately $1,900 regardless of weight for a given mileage, making a price per container of just over $42. A truckload over the same distance costs $84 or more for a heavy load. ■

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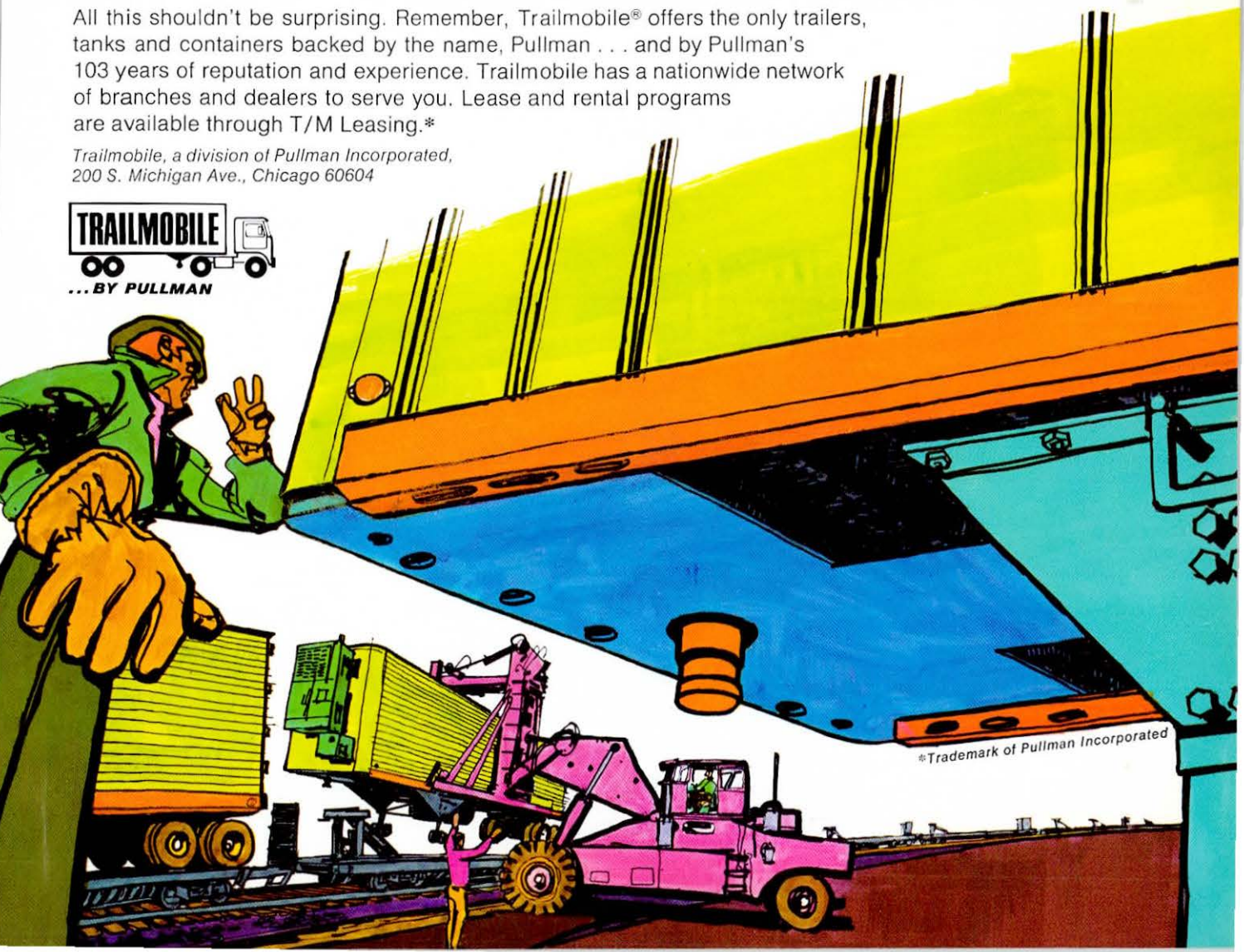

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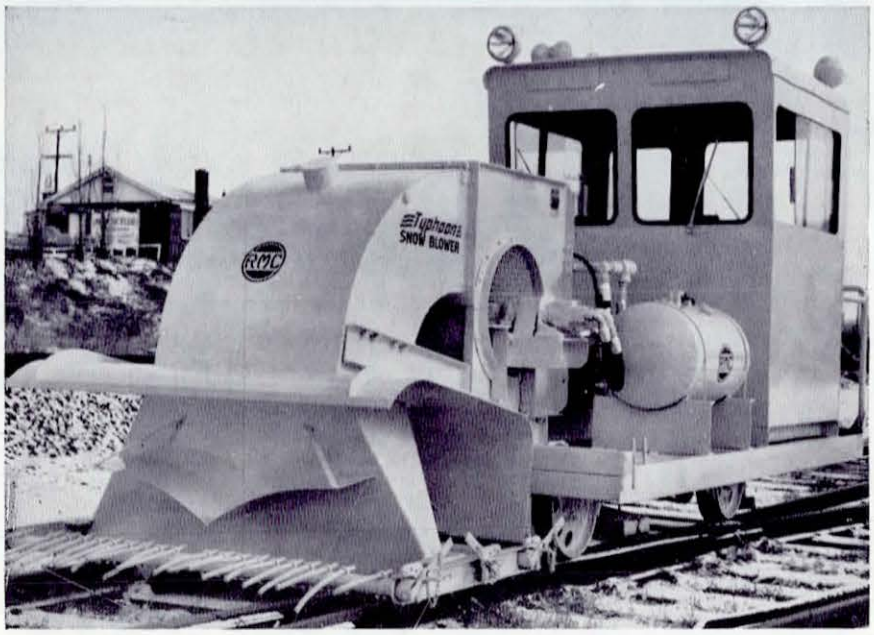

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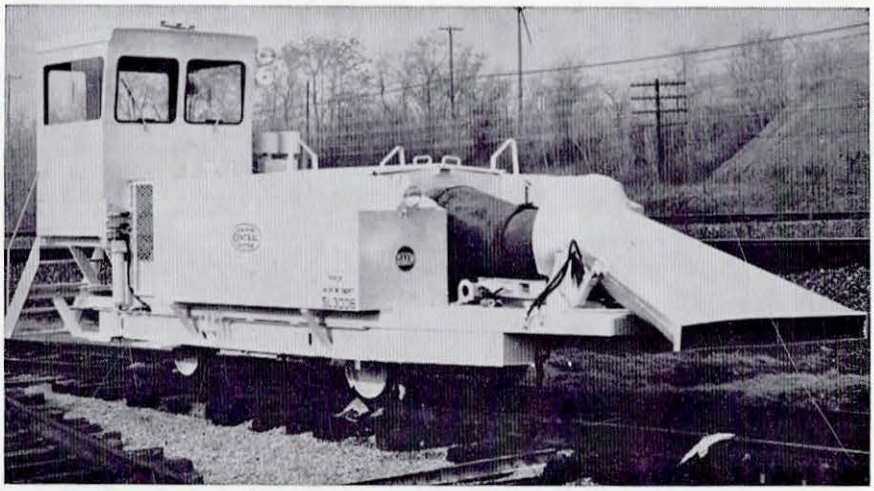

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